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AIR FORCE TARGETING REFORM: ADDRESSING THE NEED FOR CHANGE

by

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December 2003

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One prevailing trend characterizing US operations has been the emphasis on overwhelming military strength and technologies. Heavy reliance on sophisticated weaponry as the JDAM, TLAM, CALCM, and other precision weapons during recent conflicts helps illustrate this present trend. Precision guided munitions in combination with advanced technology led the US Air Force to measure success by counting total numbers of sorties flown and tonnage of ordnance employed versus assessing the effects that were achieved and goals obtained. However, as accurate as these "smart" weapon systems have become, without the benefit of a "smart" targeting process to identify the best means to employ these high tech solutions, their tremendous advantages in war are irrelevant. Targeting is a concept that is bound to and defines the very concept of airpower. Without a concept of targeting, the concept of airpower looses all meaning. Currently, the Air Force lacks overarching vision as to how the targeting process and those that perform this vital military function fit into the larger Air Force architecture. This lack of commitment to targeting negates the enormous advantages of America's sophisticated combat arsenal and if uncorrected, offsets the advantages of the precision and technology that so much faith is placed in.

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AIR FORCE TARGETING REFORM: ADDRESSING THE NEED FOR CHANGE

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ABSTRACT

In the post World War II era, one of the prevailing trends characterizing US military, especially US Air Force, operations has been the heavy emphasis placed on overwhelming military strength and technologies. Supported by recent successes in Kosovo, Afghanistan, and Iraq the US now appears to accept superior military strength as the standard, relying increasingly more on such sophisticated weaponry as the joint direct attack munitions (JDAM), TLAM, CALCM, and numerous other guided weapons. Reliance on precision guided munitions, in combination with advanced technology, has in turn led the US Air Force to measure airpower success by counting the total numbers of sorties flown and tonnage of ordnance employed versus assessing the effects that were achieved and the goals obtained. Unfortunately, no matter how accurate these "smart" weapon systems have become, without the benefit of a "smart" targeting process to identify the best means to employ these high tech solutions, the tremendous advantages they offer quickly become irrelevant. Targeting is a concept that is inextricably bound to the very concept of airpower itself, and as such has existed since the earliest days of military aviation. Targeting is the very process that defines airpower. Indeed, without a concept of targeting, the concept of airpower loses all meaning. Currently, the Air Force lacks an overarching vision for determining how the targeting process and those that perform this vital military function should fit into the larger Air Force architecture. This thesis addresses that gap and offers a number of ways to rectify it.

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I. INTRODUCTION

From the first Gulf War in 1991 to the second Gulf War in 2003, volumes have been written about the successful application of airpower. Many authors have emphasized how precision guided munitions in combination with stealth platforms have altered the nature of warfare and they describe how the US has increasingly chosen to measure airpower success by counting the total numbers of sorties flown and tonnage of ordnance employed. While the sheer numbers of munitions employed and the ever-increasing accuracy of weapons is surely impressive, these statistics mask a more critical lesson--the importance of the targeting process itself. What good is all of this precision and technology if there is no investment made concerning the personnel and processes responsible for *selecting* the targets and the manner in which airpower will be applied?

Not only have many failed to address the significance of targeting, they have also failed to comprehend the extent to which greater precision requires even greater and more detailed target analysis. As we transition from one conflict to the next, we witness our weapons accuracy grow exponentially. In the past decade alone, we have gone from a single aircraft able to drop laser-guided munitions into the ventilation shaft of a single target on a clear moonless night to a stealth bomber striking within just a few feet of sixteen separate targets during a single pass, under adverse weather conditions. While the press, academics, and many military personnel tend to evaluate operational success based on the sheer numbers of combat sorties generated and targets destroyed, few understand that there exists a select group of forgotten individuals with the most vital of job skills, responsible for selecting the best targets and munitions in an effort to achieve the operational objectives for military campaigns. Located deep in the bowels of various headquarter elements and scattered throughout various operational units, resides a group of 18-28 year-old soldiers, sailors, and airmen who have as much of an impact on national security strategy as many diplomats

do. Unfortunately, given the awesome power and responsibility that these young military professionals bear, few truly understand their roles and impact on military operations and national strategy.

In the previous fifty or so years, the United States has had the luxury of overwhelming strength, allowing the US to seldom engage an enemy without having the advantage in combat power and technology. With numerical superiority across the board and a clear qualitative edge in equipment, the outcome of recent military operations has never been left in any doubt. Overwhelming force, however, can cloud deeper deficiencies lurking within the larger system that may not become apparent until overwhelming force is no longer available. By failing to critically analyze the processes that define US military power and by failing to implement corrective actions when required, overwhelming force may quickly become the wrong solution for the future application of US military operations.

In recent years within the Air Force, several new buzzwords closely related to targeting have grown in importance – for instance, effects based operations, information operations, and intelligence preparation of the battlespace to name a few. The result of this infusion of ideas and terminology has led to a confused environment of conceptual overlap where by the *concept* of targeting has been allowed to atrophy and an extremely critical discipline within the US Air Force has been allowed to wither. Targeting is a concept that is inextricably bound to the very concept of airpower itself, and as such has existed since the earliest days of military aviation. Targeting is the very process that defines airpower. Indeed, without a concept of targeting, the concept of airpower loses all meaning. Without an effective targeting process, all the US Air Force possesses is the world's largest most elaborate air show. Regardless of how history ultimately records the merits of Air Force operations up until this point, one thing seems abundantly clear: the stakes riding on the targeting process and those responsible for targeting are as high as they have ever been and the deficiencies in today's targeting process should no longer be overlooked.

The purpose of this thesis, therefore, is to expose the recurring deficiencies that reside within Air Force targeting. This thesis seeks to identify the major targeting failures that continue to hamper Air Force operations and to expose the associated causes of these deficiencies. To do this, Chapter II presents the reasoning behind having a targeting process and then goes on to describe in detail the joint targeting process as it is presented in Joint Publication 3-60. The goal of Chapter II is to highlight for the reader the significance of the targeting process not only effective Air Force operations, but for military operations as a whole. In addition to the overall importance of the targeting process, I also hope to illustrate the immense role those who perform targeting play throughout the Air Force when it comes to the success or failure of military operations. Chapter III examines the rise and fall of the targeting concept. In this chapter I will examine the Air Force's short history and the various levels of attention granted to the concept of targeting by the Air Force since the introduction of aircraft to warfare. Chapter III will reveal how the US Air Force has at various times embraced and institutionalized the concept of targeting, only to later dismiss its vital importance, in turn leading to problems at the outset of a number of conflicts. Chapter IV scrutinizes the present-day attitudes concerning Air Force targeting and explains how the Air Force intelligence community initially became the focal point for targeting. In addition, in this chapter I examine how and why the Air Force intelligence community permitted Air Force targeting to deteriorate. This chapter will also review some of the factors that currently are holding back the advancement of Air Force targeting and I will consider what might be done to improve the targeting process. Finally, Chapter V will identify future trends that likely will have a dramatic impact on the targeting community. In this final chapter I will also present what I feel are some potential solutions to the problems associated with Air Force targeting and what should be done to Air Force targeting to allow the Air Force to become more effective and lethal in future military campaigns.

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II. ESSENCE OF TARGETING

A. INTRODUCTION

In recent years within the Air Force, several new buzzwords related to the concept of targeting have grown in importance – for instance, effects based operations, information operations, and intelligence preparation of the battlespace, to name a few. The result of this infusion of ideas and terminology has led to a confused environment of conceptual overlap where by the *concept* of targeting has been allowed to atrophy and an extremely critical discipline within the US Air Force has been allowed to wither. Therefore, to lay the proper foundations for the remainder of this thesis it is necessary that I present what current military doctrine states in regards to the concept of targeting.

B. TARGETING DEFINED

Since the prevailing mission of the US Air Force is to direct force against military targets, I was more than a little dismayed to discover after reviewing the glossaries of Air Force Doctrine Documents 2-0 and 2-1 that there exists no definition of the word targeting. How could a process at the very core of the Air Force's mission fail to find itself mentioned in the pages of its cornerstone documents? It was not until reviewing AFDD 2-5.2 “Intelligence, Surveillance, and Reconnaissance Operations”, that I found a single page of text devoted to targeting and a definition of targeting copied from Joint Publication 1-02 which defines targeting as: “The process of selecting targets and matching the appropriate response to them, taking account of operational requirements and capabilities” (p.80, 1999). Major Matt Mc Keon in his School of Advanced Aerospace Studies thesis entitled, “Joint Targeting: What’s still Broke”, uses a mixture of definitions from JP 1-02 and JP 3-60 to expand upon this very general definition of targeting. According to Major Mc Keon’s definition targeting is,

> the analysis of enemy situations relative to the commander’s mission, objectives and capabilities at the commander’s disposal, to identify and nominate specific vulnerabilities that, if exploited, will

> accomplish the commander's purpose through delaying, disrupting, disabling, or destroying enemy forces or resources critical to the enemy (p. 6, 1999).

While such a concept of targeting is not firmly incorporated into Air Force doctrine, Air Force Pamphlet 14-210 does fill some of the void in Air Force targeting. Although there seems to be an implicit understanding of targeting's purpose, the fact that the Air Force has no doctrine devoted to targeting should be a matter on concern and will be addressed in depth in the latter pages of this thesis.

Essentially, targeting is a methodology that incorporates an understanding about current enemy behaviors with guidance from operational military planners, in turn translating national strategy into a coherent military campaign. Targeting matches the desired operational outcomes with inputs from intelligence and operations to identify the forces necessary to achieve the desired operational effects. Targeting, "spans not only nuclear, conventional, chemical, and non-lethal force application, but can also include information warfare, space, and special operations" (AFPAM 14-210, p.7, 1998). Targeting is a core discipline intrinsic to all military services and military operations. Targeting occurs at every level of command and translates the operational commander's objectives and guidance into synchronized military actions. From these various definitions of targeting, it becomes clear that those working within the process have considerable responsibility, but yet no service has a dedicated professional known as a targeteer. Instead of creating a specific career field dedicated to targeting, most services have opted to add additional training to select career fields to handle targeting billets. The current US Air Force Pamphlet 14-210 defines a targeteer as:

> an experienced intelligence personnel trained in the specifics of targeting and knowledgeable about operations. Targeting professionals do not produce intelligence, but instead apply intelligence. In the same vein, they do not direct operations, but provide expertise to the staff to nominate and suggest targeting options for planning and implementation. (p.7, 1998)

While the concept of an individual targeting career field is the main motivator behind this thesis, the goal in this chapter is to point out just how much is riding on these individuals, regardless of whichever service or command they may originate from. The diagram below illustrates the realm between the operations and intelligence career fields where targeting currently resides.

Figure 1. Operations-Intelligence Intersection

C. OPERATIONAL ART AND JOINT TARGETING

The term “Operational Art” was coined by Red Army General-Major Alexander Andreevich Svechin (1878-1938) in reference to a third category of military intellect that fit between national strategy and military tactics. Svechin described operational art as, “the bridge between tactics and strategy, i.e., the means by which the senior commander transformed a series of tactical successes into operational ‘bounds’ linked together by the commander’s intent and plan” (Mc Kercher and Hennessy, p.61, 1996). Operational art should be thought of as the skillful employment of military forces to attain strategic national objectives within a given theater through the design, organization, integration, and conduct of theater strategies and campaigns. Operational art is the process

of achieving strategic aims through diligently combining the unique assets and capabilities of the joint force into a sound operational focus which echoes the earlier definitions of targeting.

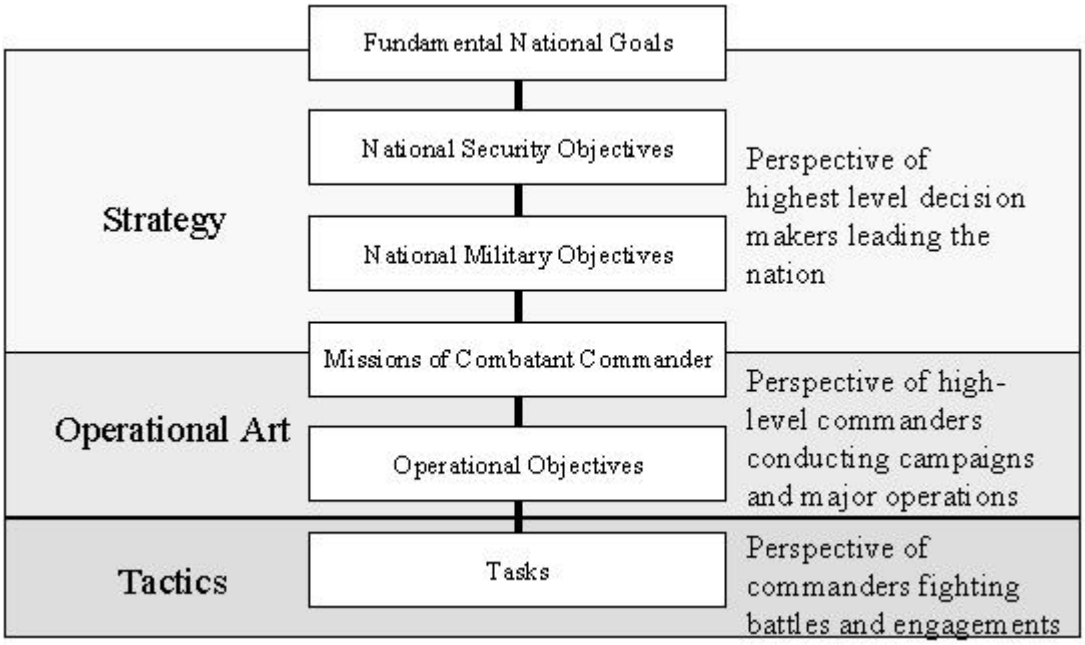

Figure 2. From Pirnie and Gardiner, p.5

The Department of Defense joint planning process, notably the joint targeting portion within it, is the executor of the operational art process, bringing together contributions from a wide variety of personnel from numerous disciplines. At the operational level, the joint targeting process seeks to align and unify all targeting activities for the theater commander, translating operational goals and objectives into a synchronized and integrated plan of action between the joint components. Ideally, joint targeting is a collaborative effort that harnesses expertise from the joint force and various national support agencies to ensure that targeting effects are congruent with theater objectives. Joint targeting is a team concept; joint targeting must incorporate the planning expertise and available resources from all components in order to achieve synergy in execution of military campaigns. In other words, every warfighting component must take an active role in the joint targeting process to ensure that its unique contributions to

the fight are fully and accurately incorporated into the joint military campaign. In a paper entitled “Campaign Planning for the 21st Century”, the authors state that “targeting is the element at the very heart of operational art” (Pollack and Weaver, p.11, 2002).

D. THE JOINT TARGETING PROCESS

Targeting philosophy has evolved from trying to effectively manage a list of targets for sheer destruction to analyzing and selecting targets based on the effect that elimination of a given target will have on the battlefield. Our goal is to find and affect enemy targets that will ultimately lead to attainment of our political objectives. Yet, how do we logically link a target to the desired political objectives? The targeting process is an analytical, systematic approach that focuses targeting and intelligence efforts on supporting operational planning and facilitates force employment. To facilitate targeting operations, a six-step process has been established to assist in the orderly transition from determining what the campaign goals are to how those goals will be achieved and eventually to the measurement of campaign success. The targeting process provides a logical progression in the development of targeting recommendations. It proceeds from the definition of the problem to assessment of the solution, without favoring any particular weapon system, theater of operations, particular service, or functionality.

The joint targeting cycle resembles an open-loop system that is meant to be adaptive and flexible while in use. To examine this logically, we should begin with those initial inputs into the process that drive all other later phases. “The most critical decision to be made in planning any campaign is the selection of its goal. If the campaign goal does not achieve the political objective for which the war is being fought … then the campaign will be a waste of effort” (McKercher and Hennessy, p.30, 1996). Having identified the desired end states or objectives of the campaign, the targeting specialist then determines how best to assimilate US force constraints and capabilities; as well as intelligence on enemy force disposition, into a set of operations designed to achieve the stated operational goals. Once the targeting specialist has evaluated these various inputs, he or she

then moves on to develop a list of potential targets and matches these targets to the various US capabilities, relative to the desired effect. Embedded within the joint targeting process is a series of feedback mechanisms that are used to evaluate the progress towards the attainment of campaign goals, as well as the success of military actions applied against the enemy targets and systems.

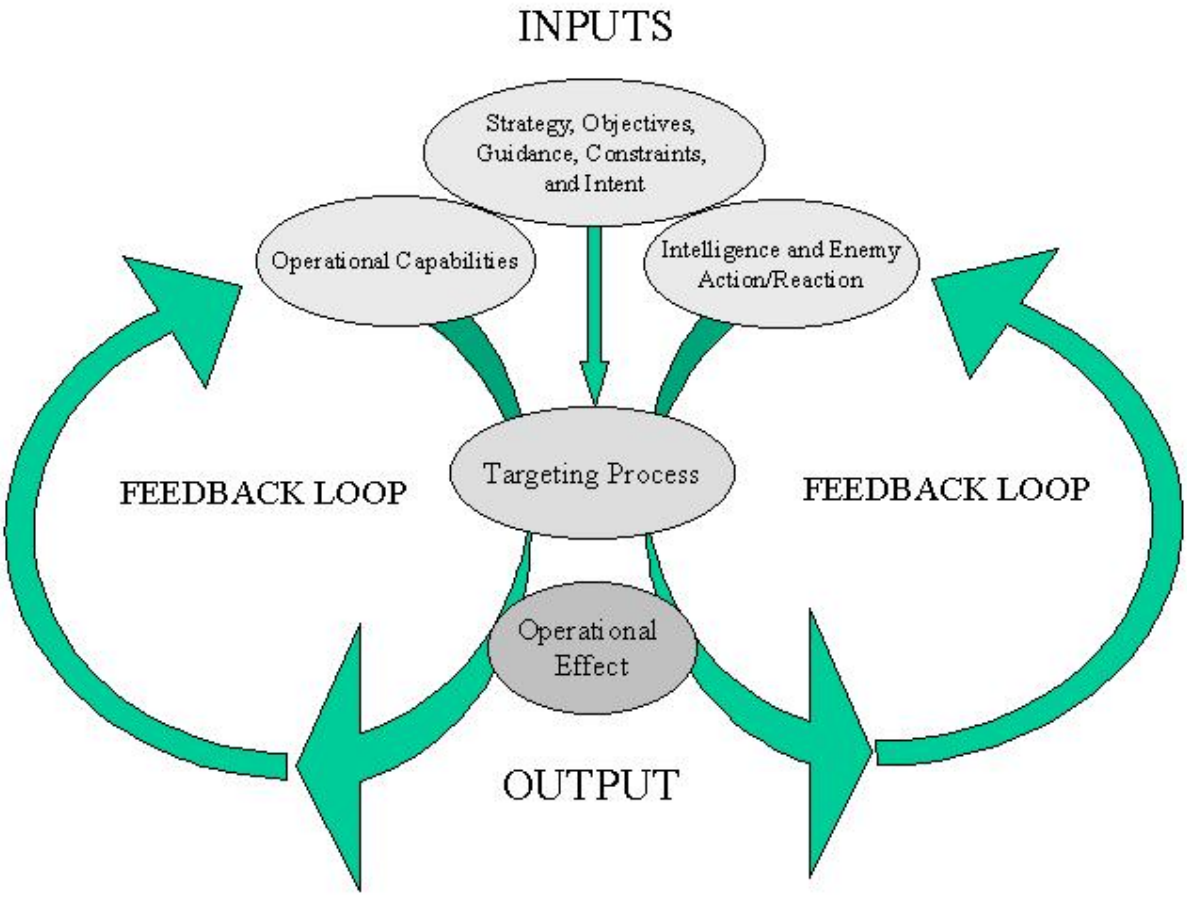

Figure 3. Targeting Overview

The six-step process that has been established to assist in the orderly transition from determining what the campaign goals are to how those goals will be achieved. Although the Targeting Process may appear to be sequential, in

reality the process is bi-directional and iterative. Additionally, targeting specialists often perform several of the phases simultaneously. This should be evident as I attempt to navigate through each of these six phases in the remainder of this chapter.

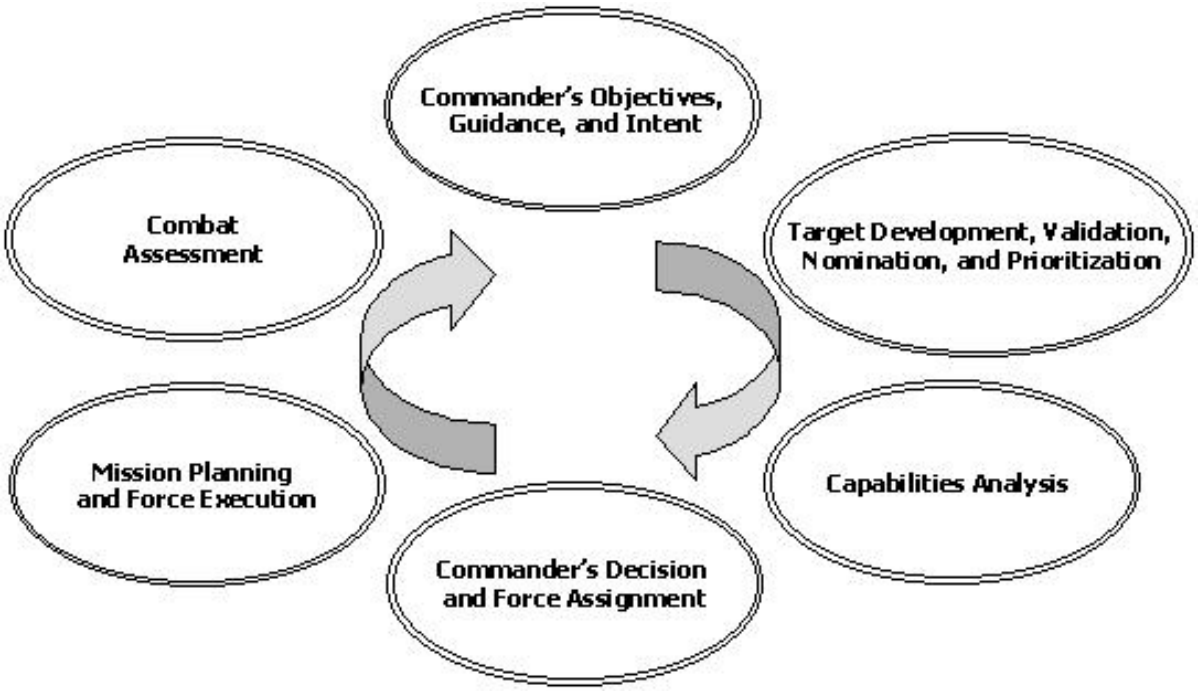

Figure 4. Joint Targeting Cycle

1. Phase 1: Commander's Objectives, Guidance, and Intent

The objective is the first principle of war in joint doctrine; development and dissemination of objectives and guidance mark the first step in the targeting process and is arguably the most critical. Objectives and guidance define the purpose and scope for all targeting activities within the joint targeting cycle. As defined in JP 3-05.2, "The commander's objectives, guidance, and intent is derived from strategic national objectives and policy and is translated into strategic theater objectives, guidance, and intent by the geographic combatant

commander" (p. I-26, 2000). National political objectives and strategy are fed into the military planning apparatus of the respective combatant commander and refined into military objectives, yielding targeting tasks that form the impetus for the joint targeting cycle.

Objectives and guidance begin at the national level as broad concepts and should end as short-term, well-defined mission objectives at the appropriate command level. Objectives define an aim for the entire operational side of the war that will be in accordance with national interests. Objectives help form a basis for target analysis and provide both the justification for aim-point selection and the means to prioritize the targets. Objectives also aid in determining collection priorities and provide a focus for intelligence analysts, thus ensuring the optimal use of limited intelligence, surveillance, and reconnaissance resources. To be most effective in this regard, military objectives should be observable, measurable, attainable, and logically guide the targeting process to the desired end-state. In addition, objectives resolve target damage criteria, thus enabling planners to select the proper weapon, delivery platform, and execution method. A military operation that is subjected to such ill-defined objectives jeopardizes the joint targeting cycle and creates a high risk of mission failure.

Guidance consists of the ground rules or policies that govern particular conditions related to the execution of operations. Command guidance provides the framework in which to achieve the objectives, to include establishing the force employment scope and restrictions. As JP 3-60 puts it, "Taken together, the objectives and guidance embody the commander's intent for military operations, and their scope can range from very near term tactical situations to far reaching campaigns" (Pg II-1, 2002). Finally, this step establishes measures of effectiveness for the joint targeting cycle that ultimately dictates when the desired end-state has been achieved. Finding such measures is often one of the most problematic issues, simply because some aspects of Information and Special Operations do not lend themselves to easily quantifiable observations.

In the Commander's Objectives, Guidance, and Intent phase, military planners are striving to turn national and theater strategies into a series of campaign tasks. This is the targeting phase in which the objectives of the various component commanders must be stated and instituted within the joint operational strategy. Failure to adequately represent component commander's objectives and strategies will likely contribute to increased confusion and coordination anguish later in the targeting process. It is essential that all US military capabilities be tied together if a specific effect or objective is to be successfully achieved. Once the objective and tasks have clearly been articulated, the targeting process examines what actions need to be executed in order to secure the stated campaign objectives.

2. Phase 2: Target Development, Validation, Nomination, and Prioritization

Once the theater commander's objectives are established and disseminated, the targeting specialist must analyze and determine what enemy behavior to influence in order to achieve a particular objective or effect. The overall intent of target development is to derive from the commander's objectives and guidance a list of prioritized targets with associated aim-points and damage requirements. "Target development, validation, nomination, and prioritization is the phase of the joint targeting process that analyzes target systems, their components, and elements in order to determine their significance and relevance based on the commander's objectives, guidance, and intent" (JP 3-05.2, p. I-27, 2000). Developing an efficient and effective targeting strategy requires vast amounts of detailed data accumulated by the U.S. intelligence community. Intelligence support in relation to the physical and virtual environments of the opposition is vital for this effective target analysis and to determine which targets are best suited to achieve the commander's desired effects efficiently and rationally. Targeting specialists use a combination of quantitative and qualitative analyses to determine which targets are most likely to satisfy the commander's objectives, and the specific nature, extent, and duration of damage that needs to be inflicted on those targets to reach the desired end state.

Target analysis is a systematic approach to determine enemy vulnerabilities and exploitable weaknesses. Target analysis determines what effects will likely be achieved against target systems and their associated activities. To perform target analysis, a targeting specialist must understand the physical, functional, and now virtual characteristics of systems and how these systems are interdependent and inter-linked. “Target development links these multiple target systems and their components in matrices that reflect both their intra- and inter- dependency with elements of tasks that, in the aggregate, contribute to the accomplishment of objectives” (JP 3-60, p. II-4, 2002). Target analysis provides the understanding for determining what effects are likely to be achieved by attacking elements within the enemy system, where the system must be attacked, and how long the attack will disrupt enemy plans or operations.

Although his focus in Strategic Warfare in Cyberspace, is on targeting support to Information Warfare, Gregory Rattray never the less considers target development to be one of the four conditions needed to successfully wage an effective information warfare campaign. According to Rattray:

> Actors considering the use of strategic warfare must be able to discern whether complex targeted systems of the adversary will prove robust and difficult to damage or consist of critical nodes that provide offensive forces with significant leverage in terms of creating damage and pain. Strategist must understand how damaged or destroyed targets within the adversary’s perceived centers of gravity will translate to political pressure. (Pg. 100, 2001)

Target validation ensures that all nominated targets meet the commander’s objectives and adhere to guidance. Target validation also ensures that the chosen targets are indeed viable elements in the enemy system. Some of the key questions a targeting specialist should be able to answer during validation are: Do the targets meet Joint Force Commander (JFC) objectives and guidance? Does the target contribute to the adversary's capability and will to wage war? Is the target operational? Is the target significant? Is the target politically sensitive? What psychological impacts will operations against the

target have on the adversary? What are LOAC and ROE considerations? And what is the impact of *not* conducting operations against the target? (AFPAM 14-210, p.51, 1998)

Once validated, the targets are then prioritized and nominated for attack by the individual service or agency's targeting representatives, through the joint fires processes of the respective component commander. The targeting specialist provides the commander, or his designated target approval representative, with a prioritized list of specific validated targets. This list is not a steadfast mandate for execution. Rather, the targeting list represents various options arranged according to relative importance, based on the characteristics of a certain phase of the campaign. "Target nominations should show how target recommendations satisfy command objectives and priorities. Additionally, planners should establish and justify options and priorities, and document these efforts before nominating target tasking to the commander" (AFPAM 14-210, p.54, 1998). Targets are prioritized based on the relative importance and prioritization of the commander's objectives. Once the nominated targets have been approved by the theater commander, or his representative, the components involved in attacking these targets then assess what to use in accordance with the desired level of damage needed to satisfy the commander's objectives within the bounds of established guidance.

3. Phase 3: Capabilities Analysis

Capabilities Analysis or Weaponeering Assessment, as it is referred to in AFPAM 14-210, is that phase which quantifies the expected results of non-lethal and lethal effects of a particular weapon or capability against the nominated target. The number one concern in this phase is to match the weapon that promises to inflict the type and extent of damage required with our understanding of where the target fits in the enemy's system, and the effect we hope to attain. Weaponeering solutions do not predict the results of any specific weapon; weaponeering solutions give an estimate of the expected performance of a nominal weapon. Weaponeering uses probabilities and trend analyses, combined with quantitative data from empirical tests, actual combat results, and/or

engineering models. To optimize targeting solutions, weaponeering must be unconstrained but yet remain realistic avoiding any preconceived notions regarding a particular weapon. At the same time the targeteer must remain conscious of ordnance availability, enemy defenses, target vulnerabilities, and systems accuracy.

The amount of force required to destroy the function of a particular target versus destroying the target structurally are not the same thing. Consequently, for lethal effects, a specific objective stating the desired level of damage is necessary to maximize the effectiveness of an attack. To achieve a specific level of damage, one must consider target vulnerability, weapons effects, delivery errors, weapon reliability, weapons system capabilities, and weapon quantities. Alternate weapons, weapons systems, and delivery tactics must likewise be considered. “It is an error of the first magnitude for the grand tactician to think solely in the terms of physical destruction” (Mc Kercher and Hennessy, p. 13, 1996). Simply matching a target to a capability does not provide the complete solution. For instance, weaponeering assessments for non-lethal force applications typically can include Electronic Warfare, Information Operations, and Psychological Operations assets. These, however, often do not lend themselves to quantifiable observations. Thus, weaponeering assessments must be always alert to collateral damage issues at or near the target that could potentially violate the commander ’s guidance or other restrictions. In this case, weaponeering may reveal the need to seek amended guidance or dictate employment tactics to prevent costly mistakes. A targeting specialist has to now sync the required capability to the resources available within the theater of operations.

4. Phase 4: Commander’s Decision and Force Assignment

The Commander’s Decision and Force Assignment phase involves optimizing the available delivery platforms and weapons to the nominated targets in a mode that satisfies the aim of the commander’s objectives. The intent is not to reach a solution that favors a particular weapon, but to select the most appropriate "tool" to perform the job. To paraphrase a Russian proverb: "If all you have is a hammer, then all of your problems look like nails" (Atlantic Intel

Command, ND). A targeting specialist must strive to eliminate bias toward a particular weapon or weapon system. The reality of scarce resources dictates that the required force must be balanced against logistical capabilities and operational realities. Therefore, the prioritized target list may not be implemented in the exact same order in which it appears. Force application blends the science of prioritizing targets with the art of campaign planning —it is the phase of the targeting process where the science and art of war coalesce.

5. Phase 5: Mission Planning and Force Execution

It might appear as though the targeting specialist would play a very limited role in the mission planning and force execution phase while the operators dominate it. In fact, all of the work of the targeting specialist eventually leads toward providing someone, somewhere, with essential information for execution planning and execution itself. Execution planning begins after the commander approves the force execution recommendations, and takes place at both the operational and tactical levels. This phase sees the detailed preparation of inputs to the Air Tasking Order (ATO), operations order, operations plans, and immediate target tasking. The targeting specialists still play a critical role by providing all the information subordinate units require, such as desired impact coordinates, weapon load-outs, weapon fusing, attack timing, and combat assessment preparation tasking. During the execution of operations themselves, the joint targeting cycle remains responsive. Targeting specialists remain on duty to respond to emerging time-sensitive-targets. Targeting priorities established in target development form the basis for responding to immediate high value targets. In concert with operations and intelligence personnel, targeting specialists work out swift, smart solutions and coordinate the diversion of assets, task alert assets, or pursue deliberate planning for follow-on missions depending on the priority.

6. Phase 6: Combat Assessment

The targeting process begins with the creation of objectives and terminates with the step that measures success in achieving those objectives. The value of any targeting strategy is lost without an effective assessment

process. Combat assessment encompasses combat operations, strike effectiveness, enemy repair and reconstitution capabilities, impact on enemy and reliability of friendly equipment-munitions-tactics. Combat assessment examines lethal and non-lethal strikes on the enemy targets and target systems to determine the effectiveness of operations. It answers the question: “How good a job are we doing and what is next?” (AFPAM14-210, p. 69, 1998) Combat assessment provides the commander with information about the status of the course of the war, helps formulate subsequent battle plans, serves as a benchmark for validating objectives, and collects valuable empirical data on weapon and weapon system performance. Combat assessment effectively "closes the loop" and re-initiates the joint targeting process. Joint Publication 3-60 divides combat assessment into three interrelated components: Battle Damage Assessment, Munitions Effects Assessment, and Re-attack Recommendations.

Battle damage assessment (BDA) is within itself divided into three analytical areas beginning with a micro level and later transitioning to the macro level assessment of effects. The focus of BDA is in the present; BDA evaluates the effectiveness of our targeting efforts against a predetermined objective as the conflict unfolds. The first phase of battle damage assessment begins with the specified target or a set of targets and focuses on physical damage committed as a result of an attack. AFPAM 14-210 defines physical damage assessment as, “an estimate of the extent of physical damage to a target based upon observed or interpreted damage” (p.71, 1998). The intent of physical damage assessment is to determine what effect the weapon had on the target’s physical structure. Results are typically presented as a quantitative percentage, but can also be depicted in descriptive terms. The functional damage assessment estimates the remaining functional or operational capability of a targeted facility or object. “Functional assessments are inferred from the assessed physical damage and include estimates of the recuperation or replacement time required for the target to resume normal operations” (AFPAM 14-210, p.71, 1998). Functional damage assessments are derived from the fusion of multiple intelligence sources,

including HUMINT, SIGINT, IMINT, and open source. Targeting specialists then analyze this intelligence data and compare the original objective for the attack with the current status of the target to determine whether the objective has been met. The third and final component to battle damage assessment is a review of the status of the overall enemy target system identified for disruption. “Target system assessment is an estimate of the overall impact of force employment against an adversary target system” (AFPAM 14-210, p.72, 1998). Similar to functional damage assessments, functional damage intelligence reports are fused together to determine the overall impact on the targeted system’s capabilities and the consequent changes apparent in the enemy’s behavior. These measurements of effectiveness are then fed back into the targeting and campaign planning process for refinement of future objectives and targeting strategies.

Complementary to BDA is the process of analyzing and providing performance feedback on munitions and their method of employment with the aim of improving future results. Munitions effectiveness assessment (MEA), “is the function that weaponeers, engineers, and operators use to analyze the effectiveness of the munitions damage mechanisms and the delivery parameters” (AFPAM 14-210, p.73, 1998). MEA evaluates the effectiveness and reliability of a weapon by investigating delivery parameters, fusing, target characteristics, and reported BDA. MEA can be used to identify and correct weapons malfunctions immediately while hostilities are on-going or provide data for long-term weapon evaluation and development of new improvements.

The cumulative damage to targets does not represent the total effectiveness of the operation because it cannot account for the assumed effects on enemy activities, the effectiveness of non-lethal force employment, or enemy alternative courses of action. Thus, the re-attack recommendation step is the final stage within combat assessment, when the need to continue the pursuit of operational goals and objectives is evaluated. “The purposes of this phase in the process are to determine degree of success in achieving objectives and formulate any required follow-up action” (JP 3-60, p.II-10, 2002). Re-attack

recommendations generally begin with an analysis of the previous actions directed against a particular target or target system. If the established objective or desired effects were not accomplished, then the targeting specialist must re-evaluate the aimpoint, tactic, and capability employed to determine if re-attack is needed. Targets that are validated for re-attack are recycled back into the targeting cycle.

E. CONCLUSION

Given the current trend towards a leaner force structure, the US armed forces are becoming ever more dependent upon precision munitions as a means to guarantee military success. While much has been invested in the pursuit of smarter, more efficient weapons, little has been done to guarantee that same level of efficiency is attained with those who are responsible for the employment of these various weapon systems. This means that no matter how accurate these precision systems have become, without the benefit of precise targeting specialists to identify the proper enemy targets, the tremendous advantages of these new weapons in war can quickly be wasted.

At this point, only the external framework of the joint targeting process has been explored. The definitions and core concepts of the joint targeting process have been explained, but all of this thus far has been in theory. In reality, targeting is a thought process, not a series of checklists. In practice, the joint targeting cycle rarely flows as smoothly as it may appear in doctrine. When the fog of war starts to roll in, targeting specialists must be ready to tailor the current operational constraints, enemy behaviors, and available capabilities into an operational strategy that works to satisfy the desired end states of the theater commander and eventually the national command authority. A line from John Glock's "The Evolution Of Air Force Targeting" sums up the need for increased awareness of the joint targeting process fairly well: "target intelligence is the basic requirement because a Strategic Air Force is nothing more than a large collection of airplanes unless it has a clear conception of what to use its planes against" (NP, 1994).

III. THE GROWTH AND DECLINE OF AIR FORCE TARGETING

A. INTRODUCTION

There is a popular phrase that tends to circulate within the military community that jokingly states, “If you don’t like the way it’s being done now, don’t worry, if you stay around long enough those changes will come back around.” Although this is a joke often heard around the “water coolers” of Air Force offices, there is some truth to it. One aspect where this is prevalent is in the Air Force’s behavior and actions in regard to targeting. Thus, this chapter seeks to illustrate the various ideas and levels of regard given to the concept of targeting within the Air Force. To best accomplish this task, I will briefly review the attitudes and philosophy of some of the earliest airpower theorists. The goal will be to examine how their various targeting theories led to a separate discipline within the Air Force, only for it to be abandoned and their concepts forgotten and re-learned time and time again to the point that we are presently wondering what to make of what we currently consider - again - to be a “new” concept. Fortunately for the Air Force, there are many motivated officers in the mid-level service schools currently studying the subjects of effects based operations, precision engagement, centers of gravity analysis, and other such topics related to the targeting discipline. While it is rewarding to see these important topics being brought back into circulation, much of what is currently being written and published is nothing more than resuscitated ideas that have always been present and have long been relevant, but just simply ignored or forgotten by many within the service.

B. DEVELOPMENT OF TARGETING THEORY THROUGH WW II

With the introduction of aircraft in World War I came no clear concept about how to best employ this new technology in warfare. Prior to World War I the objective of an army was to engage and defeat a fielded enemy as a means to gain control over the enemy’s seat of power and eventually control over the state. During World War I, early airpower theorists believed strategic

bombardment could be an instrument used to effectively bypass standing armies and navies to disrupt enemy supply and communication lines, severing fielded forces from home garrisons. Major Edgar S. Gorrell developed the first concept of strategic bombardment in November of 1918 and formulated that the best utilization for early airpower would be to "drop aerial bombs upon commercial centers and the lines of communications (LOC) in such quantities as will wreck the points aimed at and cut off the necessary supplies without which the armies in the field cannot exist" (Glock, NP, 1994,). Before Major Gorrell's vision could take shape, WWI came to a close and it would require the further endorsement of other airpower advocates before his concept came to fruition.

During the inter-war years, early airpower theorists General William Mitchell, General Hugh Trenchard, and Giulio Douhet began to advocate that airpower's greatest strength did not lie in attacking an enemy's fielded force directly, but in attacking those items that supported the enemy's fielded forces. These ideologists theorized that aircraft could subvert the traditional force-on-force engagements of large enemy armies and navies, especially if they concentrated their destructive abilities against the industrial, political, economic, and population centers of the enemy. As Colonel Phillip Meilinger in his article entitled "Air Targeting Strategies: An Overview", states:

> Air doctrine in the United States and Britain during the interwar years focused on the enemy's industrial infrastructure, not his population. In this view, the modern state was dependent on mass production of military goods… Moreover, most airmen took a broader view and argued that essentials such as electrical power, steel, chemicals and oil were the essential building blocks…needed to sustain the war effort. (p.57, ND)

With airpower theorists now beginning to realize that the entire enemy nation was open to attack, the question for air theorists of the time progressed to: where it would be best to attack the enemy in order to achieve previously agreed upon strategic objectives? World War I reinforced the idea that successful application of air power requires a predetermined plan, calculated to destroy the enemy's will and war-sustaining capability. Achieving this goal required

systematic analysis to determine which targets, if destroyed, would inflict the greatest amount of damage to the enemy, thus making it “more incumbent upon airmen to become more familiar with the inner workings of an enemy nation than had ever been the case previously” (Meilinger, p.54, ND). In the early 1930s the Air Corps Tactical School Instructors began to “examine the possibility of a scientific study of a nation’s industry as a means to single out key targets and critical nodes whose destruction would halt an entire industry or series of industries” (Lindsay, p.27-28, 1993).

To assess these targets, the Air Service needed a dedicated group of professionals equipped with the ability to collect and analyze information about the enemy and determine which targets, if destroyed, would do the most harm to potential enemies. An organization with a constant focus on air targeting would be required to undertake this kind of systematic study. This organization would need to maintain vast amounts of information about potential targets, as well as possess the ability to acquire and interpret a variety of target materials in order to translate this information into a series of effective air operations.

In 1940, General Henry Arnold, then the Chief of the Army Air Corps, appointed Major Haywood S. Hansell the first chief of strategic air intelligence and analysis (the second highest air intelligence officer in the Air Corps). Major Hansell’s section “performed economic-industrial-social analyses…It analyzed and described the vital and vulnerable systems, selected targets, and prepared target folders“ (Glock, NP, 1994). Major Hansell soon discovered that his new intelligence responsibilities ran the gamut between two extremes. On one hand, Major Hansell needed to develop tactical level intelligence on items such as enemy troop strengths, disposition, and capabilities of enemy air and air defense forces. On the other hand, the idea of strategic bombardment levied an entirely new demand for a new type of intelligence. As Colonel Meilinger explains, “Because aircraft could now strike military, economic, and government centers deep within enemy territory, it became necessary to know the precise location and function of such targets” (p.68, ND). Major Hansell, in his memoirs states:

> I believed foreign industrial analysis and targeting was the sine qua non of strategic air warfare. Without such intelligence and analysis there could be no rational planning for the application of airpower. Douhet's statement to [the] effect that the selection of objectives and targets was the essence of air strategy was patently true. (Hansell, p.22, 1986)

Major Hansell soon discovered that this new application of intelligence could not accurately be addressed solely within military intelligence channels. Without the assistance from the Army G-2, Major Hansell set out to create a group of experts whose focus would be to dissect Germany's industrial and economic systems. Due to the nature of the required intelligence and the lack of this knowledge within the established military network, Major Hansell hired civilian subject matter experts who already had extensive backgrounds as industrialists, economists, and engineers, with specific prior knowledge about Germany industry in particular. Using these subject matter experts, many of whom had been diplomatic or industrial attaches to Germany, along with open source information, scientific journals, and trade magazines that described various factory processes, Major Hansell's group was able to establish comprehensive target system studies on Germany's electrical, petroleum, and industrial systems. From our perspective today, Major Hansell and his group of subject matter experts were early targeting pioneers, and the first to conduct all-source target system analysis and critical node analysis of enemy industrial infrastructure.

At the outset of World War II, it appeared as if the Air Corps Tactical School and Major Hansell's organization possessed a clear, well-developed doctrine on the employment of airpower against Germany. This doctrine, however, did not seem to translate easily to those on the front, and comprehensive targeting strategies generated by Major Hansell's group of subject matter experts were not reaching the end user. While ideas about "industrial web" and economic targeting were beginning to percolate up to the higher echelons of the Army Air Corps, the end users still had "inadequate intelligence to plan and conduct operations and lacked a systematic method for

selecting targets" (Glock, NP, 1994). One of the problems was that while Major Hansell's group was able to acquire vast amounts of targeting information related to Germany, there was no pre-established system that allowed for the transfer and further analysis of this intelligence in the field.

In an attempt to provide target intelligence to the operational user, General Arnold created the Committee of Operational Analysis (COA) in December 1942. This committee was now the focal point responsible for the collection, analysis, and dissemination of target-related information, to include the actual target selection for the bomber offensive against Germany. The COA evolved into the first "Joint Targeting Group" headed by the Deputy Assistant Chief of the Air Staff for Targeting. Eventually, the utility of air targeting intelligence was seen as so instrumental that in 1942 the Army Air Corps established a specialized school with the sole purpose of training air intelligence officers.

As the experience of these early advocates of strategic bombardment and target analysis proved, the proper selection of vital targets was an essential component in the successful application of airpower. Accurate targeting analysis relies upon systematic analysis of expansive amounts of data, some of which falls outside the realm of "military intelligence". The effective application of targeting "requires competent, trained personnel who understand the capabilities and limitations of intelligence as well as aerospace forces. These individuals must have access to a current base of knowledge and use it" (Glock, NP, 1994). After WWII, a survey was administered to assess the effectiveness of the allied bombing campaign. An assessment from the Strategic Bombing Survey found in Major Glock's article not only remains applicable today, but should be paid significant attention by current leaders:

> If a comparable lack of [target] intelligence should exist at the start of a future national emergency, it might prove disastrous…The present shortage of trained and competent intelligence personnel give(s) cause for alarm and requires correction (Glock, NP, 1994).

World War II saw the first application and proof of the targeting concept. National strategy could be aligned with current operational reach and capabilities.

Subject matter experts from diverse sectors of industry and economy were effectively utilized, providing detailed, systematic analysis of enemy military, industrial, and political systems, and highlighting critical vulnerabilities of each. Technological studies of industry, weapons, weapons delivery systems, and enemy defenses required a comprehensive form of analysis, which had to be easily replicated and understood. To better ensure future continuity and capability, the Army Air Corps established a formal education program designed to develop and train military personnel to effectively combine target analysis with operational strategy to determine the most effective operational capability to affect the enemy. Then however, with the end of the war, many within the Army Air Corps began to question or doubt the need for targeting, Air intelligence shifted to indications and warnings rather than targeting. After all, why should the Army Air Corps expend time and expense on a capability if there was no war? Unfortunately, as we shall see this recurrent theme with those responsible for the up-keep of the targeting discipline.

C. DEVELOPMENT OF TARGETING POST WORLD WAR II

In the aftermath of WWII, the Army Air Corps was left with a better appreciation for the role targeting could play in an operation. But then somewhere in the transition to a separate Air Force in 1947, and given a growing shift to use nuclear versus conventional weapons, the new Air Force lost sight of the value of target system analysis and those that perform it. The growing apprehension over nuclear conflict led many to believe targeting was no longer a required discipline since the overall objective instead would be to bomb entire cities versus select industrial sites. With the mindset oriented towards massive nuclear strikes against the Soviet Union in place, the USAF “did not possess the organization, intelligence personnel, data base, or target materials needed to support the application of aerospace forces on the Korean peninsula” (Glock, NP, 1994).

Consequently, at the beginning of the Korean conflict there was no established organization responsible for providing target analysis and materials on Korea. The Far East Air Forces (FEAF), the theater Air Force apparatus for

General Headquarters Far East Command (GHQ) run by General MacArthur, was the Air Force apparatus responsible for the Korean Peninsula, and its primary focus was on air defense within the theater. At the start of the conflict, FEAF owned 53 outdated target folders on facilities within North Korea. As cited in Major Glock's article, the FEAF explained these targeting shortfalls:

> The probability of fighting in Korea largely had been overlooked in the years following WWII. As a result, we had practically no ready target intelligence…[We] found [ourselves] without a targeting system capable of fulfilling the requirements…However, an even more serious deficiency was the small amount of Korean targeting which had been accomplished… The latter stemmed from several basic causes, the most obvious of which was the small numbers of intelligence personnel who had been assigned to FEAF (NP, 1994).

The report further states that the FEAF "lacked sufficient personnel to handle any large day-to-day quantity of targets" (Glock, NP, 1994). Worse, it indicated that there was such a shortage of intelligence personnel that many flying officers had to be placed in intelligence centers to support the war effort.

Without a pre-established targeting program in place, the FEAF fell back on what it believed worked best and adopted a "cookie cutter" approach, applying the idea of industrial targeting that worked in WWII against Germany. The major problem with this was that Korea did not have the same level of war-sustaining industry or the same kind of manufacturing base as Germany or Japan. North Korea received much of its needed war materiel from outside suppliers that could not be targeted, making North Korea less vulnerable to the effects of strategic bombardment. This early emphasis on strategic bombardment tasking from Washington led the FEAF to be divided over the need to execute the strategic bombing campaign and the need to support events that were rapidly unfolding on the ground.

In order to garner support from the Air Force and solve the differences over airpower priorities and target selection, General MacArthur took it upon himself to form a targeting group, separate from the FEAF, thus the targeting

effort could be used to support ground operations in Korea. In July 1950, the General Headquarters Target Group was established, consisting of mostly staff officers who "lacked the experience and depth of knowledge for targeting" (Griffith, NP, 1994). This lack of targeting experience was demonstrated in the fact that "out of 220 targets designed by the GHQ Target Group from 17 July to 2 Aug, some 20 percent did not exist" (Futrell, NP, 1988). Much of this was due to the fact that the GHQ targeting group tried to pull targets from inaccurate maps. "This lack of expertise caused immediate problems because the target group was simply not capable of performing the required tasks. In three weeks, the JTG had angered all of the services with its inability to accomplish effective target selection" (Moeller, p.7, 1995).

Due to the ineptitude of the GHQ Target Group, General MacArthur ultimately granted the FEAF a greater input concerning GHQ's targeting efforts, with the understanding it would focus more air power on battlefield air interdiction and close air support missions. In time, the FEAF target section of General Stratemeyer's staff picked up the entire air-targeting function, gaining full targeting authority in the summer of 1952. Eventually, The FEAF Target Committee "became the theater medium through which air campaigns were laid out against target systems in accordance with basic programs approved by General MacArthur and General Stratemeyer" (Moeller, p.8, 1995).

The Korean War demonstrated that the US military was once again insufficiently prepared to conduct target system analysis and that there was no establishment or trained personnel prepared to conduct target analysis and selection. According to the FEAF's own lessons learned:

> Although we failed to stockpile targeting materials on Korea prior to the outbreak of hostilities, a greater initial deficiency was a lack of a targeting system…Our hastily improvised program…suffered from a lack of trained and experienced intelligence officers…[This] resulted in a lack of sufficient enemy reaction studies, and an inability to provide complete weapon recommendations… The inability to

> perform these vital targeting functions caused us to overestimate the results of several campaigns…Good target research must include physical vulnerability studies and weapons selection recommendations [and that] a truly effective targeting program must…be initiated before fighting starts (Glock, NP, 1994).

Korea demonstrated, as did WWII, that there existed a need for a dedicated group of skilled personnel to be maintained, ready to provide target analysis and provide target nominations vital to the successful application of air power. To readdress the lack of attention paid to targeting during the Korean conflict, the Air Force did create "the targets officer career field in 1954" (Glock, NP, 1994). The Air Force was also appointed the executive agency for all targeting efforts within the Department of Defense. While I was unable to locate information on the extent to which these professional targeting officers were conventionally embedded and employed within the Air Force, there is evidence of targeteers and a targeting organization for nuclear planning. "17 August 1960 when Secretary Gates established the Joint Strategic Target Planning Agency (JSTPA) and designated General Power as director, strategic target planning" (Futrell, p.588, 1971). Although the JSTPA was physically located at headquarters SAC due to the availability of equipment and personnel, it directly reported to the Joint Chiefs and had the responsibility of preparing integrated target plans for strategic (i.e., nuclear) operations. Despite the fact that the mentality of senior Air Force planners was geared mostly toward a nuclear exchange with the Soviet Union, the creation of a "targets officer" would *suggest* that once and for all the Air Force and the Department of Defense finally understood the need to cultivate this critical process.

Unfortunately, this effort to create a level of corporate targeting knowledge during the late 1950s appears to have been noble, but wasted. In the early 1960s the Kennedy administration decided to re-align certain military disciplines under the Defense Intelligence Agency, leaving targeting to die once again. According to Major General George Keegan, the 7th Air Force Deputy Chief of Staff for Intelligence in 1968-69, "Years ago, the mission of targeting was taken away from the Department of the Air Force and passed to the Defense Intelligence

Agency, where it simply died" (Glock, NP, 1994). This lack of regard for conventional targeting and those skilled at performing targeting functions once again proved to be a hindrance when we unexpectedly found ourselves preparing for war in Southeast Asia.

When the Vietnam crisis began, the US Air Force faced many situations hauntingly similar to those of a decade prior. At the beginning of the Vietnam War there was no targeting apparatus in place and very little target development or materials available. Indeed, the theater had no targeting organization until the Military Assistance Command Vietnam (MACV) director of intelligence established his own targeting organization, much as General MacArthur had set up the GHQ Target Group during the Korean War. Also as happened in Korea, in Vietnam there were numerous organizations contributing to the targeting process, to include the Joint Chiefs of Staff and the White House. Without going into the political dynamics of the Vietnam War and the exact operational headaches that occurred, the one conclusion that should be apparent to anyone who examines targeting is that the Air Force was once again unprepared to support effective targeting operations. Ironically one positive lesson learned from Vietnam is that the Air Force at least "recognized that target intelligence is essential to aerospace operations" (Glock, NP, 1994) going so far as to dedicate sixty-three percent of intelligence doctrine to the subject of targeting. As Air Force Manual (AFM) 2-1, *Tactical Air Operations - Counter Air, Close Air Support, and Air Interdiction*, 1969 states:

> The role of intelligence support in the effective employment of tactical air forces is of critical importance. Targeting is the key function and includes exploitation of all intelligence sources for target development, material production, target analysis, recommendations for strike and strike assessment. (Glock, NP, 1994)

The lesson learned from the Vietnam War was that the Air Force finally recognized the targeting discipline to be an integral component in the successful application of air power. Mr. Calvin Hickey, a former Air Force target intelligence officer remembers that the big push during the early 1970s was for the Air Force

to break its habit of establishing “just in time” ad hoc targeting organizations and instead focus on the long term resolution of the targeting discipline (e-mail correspondence, June 2003). Mr. Jerry Wyant, another former target intelligence officer, informed me that the targeting career field was formally established in 1974 “as a direct result of OSD-level lessons learned from the Vietnam conflict” (e-mail correspondence, June 2003). Calvin Hickey recalls, “I remember the big debate at the time was not whether to create a targeting discipline, but rather where to put it”. Mr. Hickey further noted that:

> The conundrum centered on the fact that although targeteers are a blended ops-intel-MC&G-JAG discipline, they work for the J3/J5, and would be the best folks to manage them. However, it was also recognized that targeteers, while not producers of intel, were heavy consumers of intel, and, given the intel propensity to hide behind the “green door”, that unless they were embedded in intel organizations, they would never get access to the critical feedstock for their work.

In 1974 it was decided that while targeteers primarily worked for operations and plans personnel, the intelligence career field would be accountable for the management and fostering of this critical discipline. This new discipline was labeled with the 8086 Air Force Specialty Code (AFSC) and the “Target Intelligence Officer” was officially born.

With the recognition of the need for a targeting professional came the need to ensure these individuals had the diverse skill set needed to become effective target intelligence officers. In 1974 the Air Force established the Armed Forces Target Intelligence Training Course at Lowry AFB, Colorado. This new targeting course was a four-month long academic pursuit that trained Army, Navy, and Air Force officers in the capabilities and limitations of joint weapon systems, and analytical methodologies for selecting, prioritizing, and recommending targets in accordance with commander’s objectives and guidance.

In 1978, the Air Force expanded the targeting discipline and established an enlisted targeting career path known as AFSC 206X1 Target Intelligence

Specialist to “provide support and limited technical assistance to the officer corps” (Wyant, e-mail correspondence, June 2003). Both Jerry Wyant and Calvin Hickey have very passionate views about the detrimental effects that the intelligence bureaucracy had on the targeting discipline. Both witnessed a degree of mismanagement and lack of targeting emphasis from senior intelligence officers, to the point that, in 1987, the career field was downgraded to AFSC 8085, meaning that the senior rank for a targeteer would now peak at the Lieutenant Colonel versus full Colonel. To add insult to injury, when the targeting career field demonstrated its value and utility with an overwhelming application of targeting theory during Operation Desert Storm in 1991, the intelligence bureaucracy *persisted* in eradicating the targeting discipline following the war.

When the build-up for Desert Storm began in 1990, the Air Force finally possessed a targeting apparatus, while its investment in target intelligence training produced a strong cadre of experienced targeteers who had not existed in any of the previous conflicts discussed in this chapter. The Goldwater-Nichols Act of 1986-7 established a streamlined command structure with an emphasis on effective joint operations. The concept of the Joint Forces Air Component Commander (JFACC) emerged from this legislation, and with it came a single officer responsible for all airpower assets within a given theater. Within each Air Force theater component was a target intelligence branch whose sole purpose was to conduct target system analysis and develop target support materials on given countries within its respective area of responsibility, in accordance with objectives and guidance of the theater commander. In February 1990, seven months prior to the invasion of Kuwait, the Air Force component of US Central Command was tasked to update the air plan for Operational Plan (OPLAN) 1002-90.

> In support of this request, the 9th Tactical Intelligence Squadron (TIS) Target Intelligence Division began target development for the draft OPLAN. Air Force targeting officers took the objectives that the air planners provided and identified target systems to meet

> them. These targeting officers researched known installations and developed lists of potential targets. They used these lists to produce the *Iraqi Target Study*, which was published on 15 June 1990. (Glock, NP, 1994)

In early August 1990, General Norman Schwarzkopf, the theater commander for CENTCOM, held a series of meetings with Lieutenant General Chuck Horner, CENTAF Commander, on the status of the current air campaign plan for Iraq. What General Horner presented was a principally defensive air plan that was generated by CENTAF planners and targeting personnel from the preceding review of OPLAN 1002-90. This defensive air plan consisted of a wide array of target sets focused against counter-air, interdiction, and close air support targets. Although this plan was available to initiate at the shortest notice, General Schwarzkopf sought an offensive attack option he referred to as a "Strategic Air Campaign Plan" in order to be able to inflict extensive damage on critical Iraqi infrastructure if Iraq pressed unexpectedly into Saudi Arabia.

General Schwarzkopf's request for a "Strategic Air Campaign" ultimately fell upon the USAF Vice Chief of Staff, General Mike Loh, on 7 August 1990. General Loh then directed the "Checkmate" division of the Air Staff, led by Colonel John Warden, to begin planning a strategic air campaign per General Schwarzkopf's request. Colonel Warden organized a small contingent of air strategists, operators, and targeteers and developed the baseline strategic air campaign plan known as 'Instant Thunder'. Instant Thunder was heavily influenced by classical strategic bombing doctrine, not too dissimilar from Major Hansell's plan 50 years earlier, especially when it came to how to model an enemy's centers of gravity in terms of five concentric rings which, if destroyed, would cause "strategic paralysis" of the enemy. General Horner was reluctant to give over any portion of air campaign planning over to Washington, having witnessed the results of this type of planning during Vietnam. Thus, in a parallel effort, General Horner directed his own CENTAF planners and targeteers to begin developing the Air Tasking Order since he had no idea when an air attack might need to be implemented.

On August 20th 1990, Colonel Warden, along with three of his associated planners, presented Instant Thunder to General Horner and his staff. Despite some personality and viewpoint differences, General Horner was impressed with the level of target system analysis, validation, and justification for striking various Iraqi target systems. The planners and targeteers at "Checkmate" were able to leverage the intelligence capabilities of the D.C. area; "they were able to assemble a much larger and more refined target list than was initially in Saudi Arabia " (Clancy, p.258, 1999). Not entirely receptive to the initial plan, since it had not addressed the question of how to handle the thousands of Iraqi troops across the border, General Horner sent Colonel Warden back to D.C. while retaining the services of his three planners.

General Horner then appointed Brigadier General Buster Glosson to head up the air campaign planning section in Riyadh, Saudi Arabia, later to be known as the "Black Hole". Over the next five months, General Glosson's planners and targeteers continued to perform target system analysis on Iraqi target systems, further refining and validating critical facilities and components. Targeteers continued to match up projected sorties, weapons systems, and weapons configurations against the target list. Coming off of a relatively successful demonstration of the utility and influence that effective targeting can have on air operations, senior Air Force Intelligence leaders were, for whatever reasons about to shape the decline of the targeting career field for the next ten years. In 1992, the Air Force Intelligence community merged and streamlined many "niche capabilities" in an attempt to better manage costs and personnel. While, from the outside, this merger of targeting and air analysis appeared to be effective, it actually became the catalyst for the slow extinction of targeting expertise within the Air Force. The effects of this re-alignment and the current status of the Air Force targeting discipline will be the focus of discussion in the following chapter.

D. CONCLUSION

In this chapter, I have attempted to illustrate the varying levels of commitment the Air Force has given to the concept of targeting. I have shown

that the Air Force, at assorted moments throughout its history' has recognized and institutionalized the concept of targeting, only to allow it to wither on the vine during times of relative peace, and become non-existent until suddenly needed again. For instance, the lessons learned during the Vietnam War helped formalize targeting by creating a specific career field and training apparatus to grow and nurture individuals with this skill set. But then, oddly enough, the operators and planners who depended so much on the credibility and experience of these targeteers took no responsibility for their existence. That responsibility was given instead to the Air Force Intelligence bureaucracy. Then, during this next twenty-year period, Air Force Intelligence leaders made some inexcusable decisions in which they forgot the fundamental purpose of Air Force Intelligence: that is, to support airpower planning and execution. Target intelligence is arguably closer to the heart of the Air Force's mission that any other intelligence discipline. Even after the glowing reviews that the targeting community received following Operation Desert Storm, the Air Force Intelligence leadership chose to somehow downplay the role of the targeteers, abolishing the 8085 AFSC, and shutting the door on the academic institution that supported this critical capability in September, 1992. Nothing is more central to airpower than targeting. This pattern of learning, but not acting upon them, represents a weak link in the effective application of airpower and will likely pose an operational risk in the future if not redressed now.

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IV. AIR FORCE TARGETING TODAY

A. INTRODUCTION

The previous chapter attempted to illustrate the on-again, off-again commitment the Air Force has made to the targeting discipline. While in the past the Air Force held the belief that targeting was an integral component of airpower, the last decade has been one in which the Air Force has seemingly forgotten the pivotal role targeting plays in the effective application of airpower. Why has this been allowed to happen within the Air Force? Since Desert Storm, the US Air Force has been involved in five major combat operations and numerous limited cruise missile strikes. One would think the need for targeting specialists would appear just as, if not more critical, now than ever before. But while the Air Force has not entirely ignored the role targeting plays in the successful application of airpower, targeting has been allowed to languish. This diminishing of the targeting discipline has in turn led to a confused picture regarding the role that targeting should play in air operations and has marginalized those who possess or desire to possess this specific skill set. This marginalization has not come without a price. In recent conflicts, though the costs cannot be measured in lost pilots, aircrews, or mission failures, they have been felt in terms of lost opportunities to demonstrate to our adversaries the full potential of American airpower. Our lack of commitment to the targeting process has also led to errors that have been directly responsible for negatively influencing national policy. A 2000 report to Congress on the after-effects of Operation Allied Force states that, “The bombing of the Chinese Embassy in Belgrade was entirely unintended. It was the result of a failure in the process of identifying and validating proposed targets. The headquarters of the Yugoslav Federal Directorate of Supply and Procurement (FDSP) was a legitimate military target, but the technique used to locate it was severely flawed” (DOD, p. XX, 2000). Unfortunately, the mistaken strike on the Chinese embassy is not the only

example of a recent error in the targeting process It is, however, one of the most prominent and when one examines the reach Air Force targeteers can have, suggests why this issue should not be treated lightly within the Air Force.

While over the last decade it may appear as if we are doing an effective job in targeting, this unfortunately is not the case. The targeting process today has eroded to a point that the ability to analyze and interpret the characteristics and value of targets, potential strategies, and effective force application recommendations has been reduced to simply adopting methods that depend on identifying targets in a database and checking them off a list, as if one were purchasing groceries on a trip to the supermarket. There is little to no examination of the overall impact *not* striking those targets may have in the pursuit of the commander's objectives. As with the rest of this thesis, the chapter is not meant to attack those hard-working and dedicated professionals who are thrown into this extremely critical job without the support of the larger Air Force intelligence organization. Instead, its intent is to question the institutional lack of support being offered. This chapter begins by examining the actions that have been taken by the Air Force intelligence community and the impact these actions have had on the targeting discipline as a whole. The second half of this chapter will present what I feel are some current policies that negatively impact the targeting process, specifically the lack of targeting doctrine, failed commitments to education, poor personnel management philosophies, and overall impacts on credibility.

B. THE PURGING OF THE TARGETING DISCIPLINE

In 1992, the Air Force intelligence community made the conscious decision to consolidate eight separate intelligence disciplines into three new Air Force Specialty Codes (AFSC). There appears to be no single cause for this action, but rather a series of considerations that led to the AFSC merger. One reason for this intelligence reorganization was the mass downsizing and realignment of the military following Desert Storm. Consolidating eight separate AFSCs along with their individual education centers and management structures

would help streamline and save on costs. Another rationale for re-engineering the intelligence career field was to eliminate “niche capabilities” and increase the opportunities for career depth and promotion opportunities within Air Force intelligence. With the re-alignment of Air Force intelligence in 1992, three new and expansive AFSCs were established. Those who were formerly designated as 8085 Target Intelligence officers were thrown into a pot along with general air intelligence analysts to become the newly designated 14N1B Intelligence Applications Officer AFSC. The Intelligence Applications Officer AFSC was designed to provide intelligence analysis and targeting support directly to the operational user. Along with the consolidation of intelligence disciplines, came the consolidation of the education systems needed to foster this new AFSC and the closure of the schoolhouses previously used for basic AFSC training. In September 1992, the last class graduated from the four-month long Armed Forces Target Intelligence Training Course at Lowry AFB, Colorado and there would be no further formal targeting training for two years.

The Air Force quickly realized that the merger of multiple disciplines into just a few created gaps in the training opportunities provided to intelligence personnel. As Major Greg Scrivner states in a presentation entitled “14N Force Development Way Ahead”, “Skills and knowledge that were effectively cut from our capabilities…for some of these skills, like targeting, we are still trying to manufacture a capability comparative to the days of old” (Scrivner, NP, 2003). This consolidation of training and the creation of a more generic intelligence officer placed an additional training burden on the gaining units that now had to guarantee that these new arrivals had the skill set needed to perform their duties. This “sink or swim” approach handicapped many of these generic intelligence officers, forcing them to adapt and learn by fire when thrown into the operational environment. The merger of the eight separate intelligence disciplines also eliminated the methods used to track and recall those personnel with previous specialized experiences, “AFSCs are the AF’s primary means of skill tracking. However, the decision was made to reduce stovepipes in our career field and

thus the number of AFSCs. As we look for people with special experience now, there is no good methodology for tracking the intelligence warfighting skills" (Scrivner, NP, 2003).

With the Air Force's withdrawal from targeting between 1992 and 1994, the US Navy came forward and took the lead, essentially also taking the executive agent status away from the Air Force, which it had held on and off again since its creation in 1947. To fill the void left by the sudden closure of the four month-long Armed Forces Target Intelligence Training Course, the Navy initiated the formation of a new five week Joint Targeting School (JTS) in 1994. Calvin Hickey recalls,

> The institution of JTS was established under the executive agency of Joint Staff (J8), and the curriculum was developed by a Tiger Team largely composed of USAF (active, reserve, and retired) targeteers. The Navy's principal role in this whole process was to instigate the formulation of the school, because they got a comeuppance in Desert Shield/Desert Storm and were shocked to see the USAF abandon the discipline shortly thereafter... with the intent from the very outset that it was to be a joint school, NOT a Navy show (e-mail correspondence, June 2003).

As a result of this sudden loss of control over the targeting process, the Air Force's senior intelligence officer, Major General Minnihan, convened a training and education working group to address the degradation of targeting within Air Force intelligence and the actions required to re-constitute targeting within the Air Force. As Gary Thomas, a former Air Force targeteer and member of this original working group, describes it, the "motivation [for the working group] was to put a band aid on the big problem of the dwindling number of trained Air Force Targets Officers available and how to identify them without an AFSC" (personal correspondence, NP, Aug 2003).

As a result of this targeting working group, Air Force intelligence concluded that targeting was an essential component of air operations and that it was essential to create a functional manager for Air Force targeting and establish a new targeting course aimed at mid-level officers and NCOs. This new course

was designed to provide the necessary skills needed to conduct targeting operations at the Air Operations Center (AOC) level. In just three months time during 1995, Majors Phil Pratzner and Gary Thomas, along with Master Sargent Steve Jones, created a five week-long targeting course designed to fill the void of the once four month-long Armed Forces Target Intelligence Training Course lost in 1992. The Combat Targeting Course (CTC) was initially designed as a technical school, combining the fundamentals of targeting with hands-on application to provide a knowledge base to those going forward to fill key AOC and higher staff targeting functions. The CTC began its existence on a less than steady foundation since it was created by, and then placed under the control and direction of, the Air Education and Training Command (AETC). Those responsible for the basic intelligence courses at Goodfellow AFB, Texas were now responsible for the budgeting and management of CTC resources and personnel. This placement of a mid-level targeting training center under AETC rather than the Air Combat Command or Air Force Staff has proved increasingly problematic over time. From the beginning, the CTC has been over-tasked, under-funded, under-manned, and under-appreciated by those that control it. When the CTC began with its first class of 20 students in August of 1995, there were only three instructors responsible for not only teaching back-to-back classes of twenty students, but also developing course materials, instructing a weaponeering mobile training team, and teaching the targeting portion of the fundamental intelligence course. In contrast, the Joint Targeting School had a staff of eleven instructors and two administrative support personnel for three resident courses totaling six weeks and two short mobile training teams. The CTC, meanwhile, went virtually unchanged with the exception of adding a second parallel session.

Then in 1998, Air Force Intelligence once again felt that intelligence officers were becoming too specialized, and made the decision to merge the three remaining AFSCs established in 1992 into one new 14N1 “Air Force Intelligence Officer” AFSC. Although having three AFSCs still left plenty of room for movement and cross-training, the persisting concern among senior

intelligence personnel was that officers were still too specialized, which in turn put their opportunities for promotion at risk. A major assumption that influenced this decision was the idea that since the enlisted force was not as affected by specialization as officers, enlisted personnel could become the specialists and thus be the repository for continuity and experience. This form of reasoning - which persists - remains flawed on several counts. First, it assumes that all enlisted personnel are willing to accept some additional level of responsibility without additional compensation. Second, it assumes that senior officers in a joint environment, such as the Air Operations Center, would provide enlisted specialists the same level of credibility as they would another officer. Having worked with officers from other services within an AOC environment, it is clear to me that they often tend to disregard enlisted comments no matter how many years enlisted personnel may have spent in their respective specialty. Finally, this notion of generalist is also flawed because it assumes that every intelligence officer has aspirations to make Colonel. In recent years this has become a rather hot topic among my mid-level peers. While some do indeed have the ambition to wear eagles on their shoulders, not all do. Many echo the idea that we should maintain specialist officers, and would be willing to risk ending their careers as Majors or Lieutenant Colonels in order to see this option enacted.

The consolidation into one AFSC for intelligence also led to another consolidation of an extremely broad and limited fundamental intelligence course. The merger into one AFSC meant that Air Force Intelligence had one standardized course to cover the enormous spectrum of Air Force Intelligence. Not only did this new course have to cover an excessive amount of information, it had to do so in the relatively short time span of seven months. This condensed and fast-paced training regimen left graduates with an extremely wide view of intelligence, but never a solid footing in any particular aspect that they would be required to demonstrate when they drove out the gates of Goodfellow AFB. This, again, placed an additional burden on the gaining units and placed a heavy load on the shoulders of those fledgling intelligence officers who would have to learn

by fire. The effects of this new personnel and training system are perhaps best spelled out in Major Scrivner's previously cited presentation:

> Greater burden on the field translated into more OJT, but as these transitions were occurring, the Cold War had ended and newer/greater demands were being placed on our force. This meant we had less people, less training, new missions, more diverse threats, and higher OPS/PERSTEMPO. This equated to fewer opportunities for internal training and a force that sank or swam by their own volition…This approach definitely decreased the quality of officer produced for at least 6-12 months during the transition between courses. It also reduced the amount of actual skills training delivered to our force. (NP, 2003)

In August 2003, I contacted Goodfellow AFB to inquire about how much time was devoted to targeting in the new basic intelligence course. What I found was that those intelligence officers who were being sent out to fill targeting billets at the wing or the AOC, received only eleven days of targeting training. This is not enough, as is clear since every individual selected to fill a targeting billet then has to attend the Combat Targeting Course (CTC) to acquire those critical skills needed to perform his/her duties. Not only does this place a heavy burden on those graduates who are required to hit the ground running as soon as they graduate from the CTC, it also places greater demands on the CTC itself. The CTC was never designed to be a basic course. The CTC was originally designed as a mid-level course for mid-level officers and enlisted personnel, not newly minted lieutenants and airmen with no operational background to bring to, and share with, the class. To accommodate a high throughput of students, however, the CTC was directed to modify its training standards and evaluation techniques to guarantee student graduation numbers. In order to meet the high demand for targeteers in the field, the Air Force Chief of Staff for Intelligence directed a training planning team in 1998 to address curriculum modifications and student capacity. What this team concluded was that individuals needed to receive more "hands on training" in applying those targeting skills before going out into the field as "mission ready" targeteers when they graduated from the course. This requirement for additional training meant the CTC would have to expand its

curriculum by two weeks, extending it from five to seven weeks in total training time. In addition to these new demands, Operations Desert Fox and Allied Force saw an increase in the number of students attending the CTC, and by 1999 the CTC had three simultaneous courses with roughly 36 students per training cycle, with little to no relief between graduating one class and starting another. In addition to the three courses in progress, the CTC also offered training for an eleven-day weaponeering mobile training team.

While those within the intelligence community and Air Staff were increasingly endorsing targeting and the need to have trained targeteers on staff, this motivation did not translate to AETC and Goodfellow AFB. On my arrival in the summer of 1999 as an instructor at the Combat Targeting Course, the CTC had five instructors who not only taught four courses, but also had to develop and maintain course materials and tests, in addition to general course administration and scheduling. In the summer of 2000, a second targeting training planning team was tasked to address the current state of affairs within the targeting community. During this second meeting, the CTC staff and field targeting representatives were directed by Air Staff to “think outside the box” and bring to the table a proposal about what it would take to create a complete “mission ready” targeteer right out of the school. We at the CTC took this opportunity to add depth to many of the subjects that we were unable to give sufficient attention due to limited time, and we proposed an additional three-week expansion of the course. The additional three weeks would have been used to provide increased hands-on training and to develop a series of exercises designed to simulate real world pressures and time lines. When the CTC submitted this proposal to the training manager for review, the reply was that the additional material was important and needed to be taught, but the CTC would have to do so in the seven weeks already allotted. Once again then, the narrow-minded attitudes of AETC subverted what the operational users in the field desired. I contacted the CTC course chief in August 2003 to inquire about the status of the newly revised course and the health of the CTC’s instructor staff. He informed me that the CTC had three qualified instructors to run three classes and a mobile training team, as

well as maintain the day-to-day administration of the course. In other words, fewer people are now being asked to do more with less. It does not take a human resources expert to recognize that the CTC is again being misunderstood by those who control it, and that extremely dedicated instructors are being stretched to their breaking points. What happens when these dedicated individuals realize they are being taken advantage of and their motivation to teach plummets? What kind of targeteers can we expect in the field if the very course that is designed to be the sole source of targeting education and mentorship is abused and allowed to deteriorate?

Unfortunately, Air Force intelligence seams determined to continue the practice of creating "just in time targeteers", choosing to solve the targeting problem by rapidly filling CTC chairs versus grooming a pool of qualified and experienced targeting specialists. Ironically, a recent Air Force briefing would seem to call this practice into question: "Some positions require more depth of experience than others…it is not smart business. Bottom Line: focus on what the position really requires to accomplish the mission, rather than attempting to make all officers try to touch all core competencies" (Scrivner, NP, 2003).

As of summer 2003, those responsible for Air Force Intelligence would seem to think a targeteer need be nothing more than a generic intelligence officer or enlisted troop who has attended a seven-week school on the *very basic principles* of targeting. There is currently no long-range plan for how to grow and foster a base of experienced targeteers. Some of the other specialized intelligence disciplines are awarded a "Special Experience Identifier" that is designed to track those with certain capabilities, so that they can be called on when needed. The Air Force intelligence community has made no such effort to do this for those with targeting experience, choosing instead to track targeteers by simply searching a database for those who have attended the course. No one seems to have thought about what might happen when the Air Force finds itself in need of a targeteer and selects an individual who may have attended the CTC in the past, but has never actually occupied a targeting position? The CTC very often has students pass through it who do not go on to fill targeting positions. At

the very least, someone should keep better track of which personnel attended what schools and ensure those that attend the course do go on to fill targeting billets.

C. CURRENT TARGETING ISSUES

Given current practices, one would have to conclude that the Air Force is not sure whether targeting is a discipline, a concept, or even something that is entirely necessary. Specifically, the Air Force lacks the doctrine and mindset required to promote the level of regard needed for correcting Air Force targeting. This section takes a look at some of the current issues that are contributing to the demise of the targeting discipline and what can be done to alleviate this.

1. Doctrine

One of the fundamental problems with Air Force targeting is the lack of coherent doctrine. There is no single doctrine document covering the Air Force's views on targeting and how targeting should be conducted. What one can expect to discover are numerous references to targeting scattered throughout various other doctrine documents. Yet, the Air Force has not explicitly defined the nature of targeting or the importance targeting has on the effective application of airpower. According to AFDD-1, "Air Force doctrine is meant to codify accumulated wisdom and provide a framework for the way we prepare for, plan, and conduct air and space operations" (AFDD-1, p.81, 1997). If targeting is a process used to plan and apply airpower, then why is there no doctrine to address how to best perform targeting operations?

Currently, the Air Force possesses doctrine on supply procedures and public affairs. It comes as a shock to me that the Air Force has no established doctrine document that pulls together current Air Force beliefs regarding this time-honored discipline or encompassing lessons learned from previous conflicts. Not having an established framework from which to work deprives anyone dealing with the targeting process of a source of accumulated knowledge and guidance about how to carry out the targeting discipline. Luckily, the Joint

Community has recently published JP 3-60, a joint doctrine document on targeting. Hopefully, this joint doctrine will force the Air Force to create its own doctrine document on targeting, which in turn will convey to those at the higher echelons the importance of targeting and where we are currently failing. Without the foundation that doctrine provides, what type of targeting infrastructure can we expect to build? Only once our foundation is strengthened can we begin to envision and build an effective targeting apparatus?

2. Education

I have already presented the numerous growing pains experienced by the Combat Targeting Course since its establishment in 1995. While the course and its staff have made exceptional efforts to keep current and provide a challenging educational opportunity for students, staff members have not been allowed to execute this program as effectively as they could. In my opinion, one of the greatest hindrances to the education of targeteers has been the subjugation of the Combat Targeting Course under the overarching AETC structure at Goodfellow AFB. The CTC was originally envisioned as a “graduate level” course designed to produce fully qualified mid-level officers and enlisted targeteers. The CTC, however, does not produce highly skilled targeting strategists, target analysts, weaponeering experts, or skilled technicians. The seven-week AETC course provides intelligence officers and enlisted personnel with just enough time to acquire only the most rudimentary targeting knowledge and skills, that themselves are barely enough to keep these individuals from being overwhelmed when they reach the theater. By placing the CTC under the control of those who are responsible for the basic intelligence course, methods and institutional checks effective in basic level courses have begun to creep in and impede what is supposedly a mid-level course. This includes the static lock-down of lesson plans, the all too frequent shuffling of mid-level experienced and qualified instructors into staff jobs, the inability to bring in guests participants, and the inability to recruit experienced targeteers willing to pass along their knowledge to the students.

AETC operates with stringent controls and excessive accountability. The systems in place are very effective for ensuring that courses are designed and executed in accordance with set training standards. While this may certainly be critical to maintaining basic training standards, it does not suit curriculums that are continuously evolving, as is targeting. Targeting is a discipline in which there is a constant stream of incoming information, systems, and operational lessons to master. In the weaponeering process alone, there are constant advances in weapons and weaponeering calculation software. The static nature of AETC does not allow, and even punishes, those that try to update the curriculum. Even if a course change is approved, there is an extensive period of educational planning, development, and approval before new material is allowed to be presented to the students. This tedious process discourages any new information from going into the course, at least by official means. The Combat Targeting Course would be better served by an organization outside of AETC that could allow more freedom of maneuver within the course, similar to the environment that currently exists at the Joint Targeting School.

Another problem at Goodfellow AFB has been the continuous shuffling of mid-level, experienced, and qualified instructors into staff jobs. Many of the instructors that volunteer to go to this sparse West Texas location do so with the presumption that they will be teaching. However, once there, these qualified and motivated individuals are yanked from instructional duty in order to fill flight commander and other associated staff jobs that have no bearing on targeting. In many cases, these individuals are tasked to fill staff positions while still occupying instructor billets, limiting any refill of the vacated position. This is currently the situation in the Combat Targeting Course, where the course chief is pulled to be a flight commander while still occupying an instructor's billet. This pull and plug mentality has led to many experienced qualified targeteers being pulled from the CTC classroom, only to be replaced by less experienced instructors. Not only does this affect the morale of the staff currently there, but word gets around and negatively impacts the ability to recruit experienced targeteers willing to share their knowledge and experiences. Consider the fact

that enlisted instructors currently at the CTC average approximately 15 years of some form of targeting experience, while officer instructors average about one year of targeting experience.

In addition to the above structural and managerial problems associated with AETC and its effects on the Combat Targeting Course, the physical location of the CTC also presents problems. On those extremely rare occasions when the CTC can bring in operators to lecture to the classes, the experiences that they are able to share with the class are colossal. Having operators stand in front of the students and validate everything that is being presented to them not only adds a degree of credibility to the targeting discipline, but also motivates the students to perform better. However, Goodfellow is just too remote and separated form the operational community to attract these guests.

On closer examination, it is clear that the current targeting training curriculum does not produce the type of targeteers demanded by Air Force and Joint Force commanders. To produce the intelligence personnel needed to carry out targeting duties at both the tactical and operational level, the Air Force should establish two separate targeting training courses. AETC and the current CTC structure would be best suited as a “basic” level targeting course, providing graduates with the fundamental targeting skills and applications to function when they arrive at various targeting billets. The demands for technical proficiency within the targeting community have outstripped the ability of most units to create these technical experts through OJT programs alone. Functions such as data base management, target analysis, weaponeering, geocoordinate point mensuration, and imagery analysis require extensive technical training which could be performed well by a tightly structured organization like AETC.

The Air Force should then consider establishing a separate and truly “advanced” targeting school to fill the original requirement of the CTC - that is, a course for mid-level officers and NCOs filling AOC and various other targeting staff positions. This new advanced course should fall under the control and direction of those who plan and employ airpower. I recommend that this new

course fall under the direct control and administration of either Air Combat Command or even Air Staff. In addition to being run outside of AETC, it would also be better served by being located in close proximity to an operational location. If this advanced course were to be located at Hurlburt AFB or Eglin AFB, for example, not only would the course have access to experienced operators, but could also leverage the other targeting and AOC-related institutions in the area. This leverage could come in the form of guest presenters from numerous co-located organizations, such as the Command and Control Warrior and Information Operation Courses at Hurlburt AFB and the weaponeering program developers at Eglin AFB. Regardless of location, this course should be on a par with that of the fighter weapons school in its selectivity, academic rigor, and length. The principle objective of this advanced targeting course should be to create mid- to senior-level targeting specialists, highly knowledgeable in operational planning and the execution of airpower. Particular attention must be paid to the role of the targeteer in the development of air strategies and joint campaign planning. Targeteers must have an in-depth understanding of how operational plans are developed and executed, and the central role targeting contributes to this process. While this vision may be grandiose, I feel that the Air Force desperately needs a course of this type. This course would create professionals who could do far more than simply annihilate targets on a list, but think through the problem at hand to recommend the appropriate courses of action needed to achieve the end goal. If the Air Force can spend millions of dollars to teach someone how to fly an aircraft, could it not justify spending that same amount, or actually much less, to create a cadre of highly knowledgeable targeteers? Or to be more pointed about it, is it better for the Air Force to expend the dollars to make up for some potentially costly targeting errors in the next operation, or pay the cost now to ensure that politically devastating errors – like the bombing of the Chinese Embassy - are minimized in the future?

3. Personnel Policies

Another fundamental problem afflicting targeting is the fatally flawed officer career management philosophy that presumes every individual's primary goal is to rise to higher ranks and levels of command. In the previous section I outlined how Air Force intelligence found itself heading down this rocky path of focusing so much on people and their careers that it neglected how best to handle the operational task at hand. Currently, there is a plague of careerism that has spread throughout the intelligence leadership. Careerism is not solely the fault of any given individual, but rather a combination of ambition on the part of some combined with the military's "up or out" policy. The "up or out" personnel system assumes that an officer must either be promoted vertically to a higher level of responsibility or, if unable to move up, must be forced out of the service. This mindset of an "up or out" personnel system "means officers are constantly trying to impress their immediate supervisors, and a 'risk adverse and careerist' environment is created" (Robinson, NP, 2002). In order to appear more promotable, people often must move from position to position in order to achieve the necessary experiences considered important for the next level of command. The Air Force has even gone so far as to institutionalize this process. During an officer's yearly performance evaluation there is a newly established "career guidance" form that the commander completes to direct which jobs would be best for his or her subordinates and where that particular individual must go next in order to achieve the next rank, not what would best benefit the Air Force. Indeed, some commanders even go so far as to direct where individuals will be sent next in the name of "career progression", regardless of the specific experiences and training that individual might be able to bring to the fight. Air Force intelligence has embraced this career management philosophy to such an extent that one could say intelligence training and the personnel system have been re-shaped to *accommodate* careerism. In the previous section I outlined how Air Force intelligence went from eight separate disciplines to just one in less than a decade. The overall rationale for these mergers was to eliminate stovepipes or "niche capabilities" that the intelligence community assumed were hindering an

individual's promotability. Air Force intelligence seemed to put aside the operational mission of intelligence in favor of having more people stay in and rise through the ranks.

Tellingly, whenever this subject is broached with anyone above the rank of Major, the counter-argument most often made is that a specialist cannot make a good manager or leader. Yet, the logic underlying this point of view assumes that those individuals who are allowed to become too specialized are incapable of commanding in areas outside of their specialty. Currently though, the Air Force Director of Intelligence Surveillance and Reconnaissance, the very person who controls Air Force Intelligence, is an Air Force *pilot*. The fact that this position is being filled by a pilot versus an intelligence operator does not make the current AF/XOI any less able to manage the intelligence community than would be, say, a targeting specialist or an imagery analyst who has remained in a particular "niche" for a good portion of his or her career, minus the occasional cross flow into parallel disciplines. If we were to examine the definition of what a leader is we would likely find no standard answer. Never the less, most would probably agree that a leader is one who can best utilize and manage the tools and resources available to carry out a particular mission. This leader does not need to become an expert in what his or her troops do, but needs to be able to take care of these troops and employ them in the best possible manner available to accomplish the mission. *Leadership is not something one gains by rotating through various intelligence disciplines.* I think the Air Force Intelligence community would have much to gain by examining how the pilot community structures its personnel system.

There is no better example of a specialist than a pilot. As an operator, he or she is trained to perform a specific task: to fly the plane and drop ordinance. He or she does this and eventually takes on positions of higher command, as flight lead, squadron commander, wing commander, etc. Pilots may have the opportunity to move into lateral staff and educational billets, but for the most part, they have the tendency to remain with a given platform. To draw the analogy to how intelligence manages personnel, imagine a young lieutenant being trained to

fly a fighter. At a certain point, it is suddenly deemed time for him to move and he is informed he will be sent to fly transport aircraft or bombers with no further training. This move would be made based solely on the notion that this career jump would somehow make him a better Joint Force Air Component Commander later in his career. I would wager that, if the Air Force did this to its pilots it would not only have a mutiny on its hands, but it would also be defying logic. Indeed, if the argument is that since pilots fly the planes and drop bombs they need to be proficient at their tasks, why wouldn't this apply equally to the individuals who pick which targets, specific aimpoints, and weapon load-outs are needed in order for that pilot to be proficient, skilled, and accountable in his or her job?

A joke that is not too uncommon among company grade intelligence officers is that Air Force intelligence has made us "jacks of all trades, and masters of none". I cannot speak for all intelligence officers, but those whom I have interviewed have stated that this career management philosophy and the feeling of constantly being thrown into the fire has levied a heavy burden, directly causing many to separate from the service. Fortunately, there is growing interest within the Department of Defense and the Air Force specifically regarding the issue of generalists versus specialists. During the October 2002 Corona Conference, for instance, several studies were directed at this with the goal of analyzing the results and providing further direction during the February 2004 conference. One of these studies is to examine,

> Rebuilding of the officer assignment system to give individuals more input and to stress career development as the top priority. Assignments would seek to broaden experiences of officers who aspire to command, but also give those who aren't chasing a general's star the chance to avoid staff and broadening assignments that take them out of their functional specialty (Trowbridge, NP, 2003).

Something else that is being examined is a modification of the federal law establishing the "up or out" system, which has governed the management of military careers since World War II. As mentioned earlier, this outdated system forces officers out of the system after a certain amount of time in a given grade.

What is needed is a system that would place greater value on officers who are allowed to become proficient in their duties and choose to stay within their specialty. This logic would require a complete 180-degree culture change from the current career management philosophy. Modifying the system in this way could even have decisive benefits for those seeking positions of command. Nor would specialization necessarily have to mean stagnation. In the business world specialists may not be promoted if it means that they would have to give up exercising their special talent and become managers; an excellent computer programmer may, in fact, make an indifferent manager. Instead, the company can reward the specialists by increasing their salaries, giving them more challenging projects, and assigning them responsibilities whereby they impart their knowledge and experience to younger specialists. Even other nations - Norway for example - have adopted a horizontal promotion system in addition to the traditional vertical promotion system. The challenge for those who will be left to address this issue will be to determine the appropriate reward system for those who might choose to remain in a given specialty. While this topic could be the subject of numerous theses, the goal here is to simply address how the current career management philosophy negatively affects how the Air Force Intelligence community manages its personnel, particularly within targeting.

4. Credibility

Another topic worth considering is the impact of the lack of attention given to Air Force targeting on the Air Force targeting community's credibility in the eyes of those it serves: Wing Commanders, AOC planners and strategists, and Joint Force Air Component Commanders. The credibility of targeteers will depend largely on what they bring with them in terms of knowledge and previous experiences. Currently, most targeteers, especially targeting officers, have limited knowledge and very little operational experience on which to build. A statement from AFPAM 14-210 paints a troublesome picture of what will likely take place if Air Force intelligence cannot improve this situation: "If targeteers don't provide full targeting service, then other well meaning but under trained and ill experienced groups will step in and attempt to provide that which is perceived

to be missing" (AFPAM 14-210, p.41, 1998). If targeteers are supposed to be the experts who conduct all of those critical task that I laid out in Chapter II, without regard to any specific platforms or capabilities, what will happen if the planners and operators that targeteers work with suddenly lose faith in our chartered abilities? The absence of trained and - more importantly - experienced targeteers in the various planning processes could conceivably allow various operational and platform biases to creep into the planning process, equating to inappropriate force-to-target pairings.

D. CONCLUSION

By now I hope to have established that targeting is closer to the core of the Air Force mission than any other intelligence discipline. It would appear as if, while trying to establish a larger footing and place of prominence within the Air Force, Air Force intelligence has lost sight of its true purpose and commitment to targeting. It has tried to do targeting on the cheap. Fortunately, the Air Force has had the benefit of some highly motivated and enthusiastic personnel who have been able to accomplish much with very little support. Currently, Air Force intelligence is at a critical juncture. When we start treating people as if they are cogs in a machine, we should start to expect machine-like responses. The problem is targeting cannot be treated as a mechanistic problem or else all that we will become accustomed to are machine-like responses to a problem versus the ability of an experienced targeting specialist to fully scrutinize and present varied solutions to a given problem given the capabilities at hand. Having laid out some of the current issues impacting the targeting community and have alluded to some possible solutions to get Air Force targeting back to the forefront in this chapter. The following chapter focuses on some of the trends I see heading our way in Air Force targeting, and I also propose some ideas about how we should structure Air Force targeting to better prepare ourselves to cope with these situations.

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V. FUTURE TARGETING TRENDS AND POTENTIAL SOLUTIONS

A. INTRODUCTION

The information trend shaping wars in the future will drive exponential advances in precision, intelligence, speed of communications, and mobility of our enemies. In turn, this will place a greater demand on precision target intelligence. To better confront this challenge the Air Force must overcome organizational biases, as well as, training, personnel, analytical, and production shortfalls. The increasing demands on the targeting community require the Air Force to take aggressive action in shaping, designing, and building the future of targeting. This chapter begins by examining some of the future trends that seem likely to have a dramatic impact on the targeting community, and how the targeting community should be prepared to address these future trends. The latter half of this chapter presents my assessment of the changes that the Air Force needs to pursue regarding the establishment of a larger, more robust targeting infrastructure within the Air Force. I will outline two proposals, ranging from a paradigm shift best case option of creating a separate targeting career field (circa 1974-1992) to how we might modify the targeting community given the current mindset and the restrictions already in place.

B. FUTURE ENVIRONMENT

Having presented a historical overview of targeting and then having reviewed the current state of targeting, here I turn to what we can expect of targeting in the future. The following are some areas or trends that are likely to increase the future need for targeting specialists.

1. Varied Levels of Warfare

Since the dissolution of the Soviet Union, the operational environment in which the US must prepare to operate has become much more dynamic. In the past, targeting specialists could focus their attentions on a select few regional powers within a relatively stable environment. In that environment, the static nature of the current targeting process worked well and targeting efforts could be

focused on a fixed conventional enemy. However, today's environment is fraught with numerous players that present a variety of threats, such as rogue states, terrorists, and criminal organizations. The types of conflict targeteers have been involved with range from large-scale conventional military engagements against Iraq, to pursuing fleeting, high-value, sub-state targets in Afghanistan. The diverse nature of military engagements requires targeteers who are able to perform targeting duties across a wide spectrum of military operations. While targeting specialists need to be trained and prepared to focus on long, conventional types of conflict, they also need to be able to think in dynamic ways given the type of conflict we are currently engaged in, what can be described as mid- to low-intensity sub-state conflict.

In high intensity conflicts it may be relatively easy for US intelligence assets to present a clear, coherent picture of the adversary's forces and infrastructure, making it easier for targeteers to assess critical vulnerabilities and assist with strategies that will help achieve the commander's intent. However, when conflicts involve sub-state actors that do not present themselves as openly as more conventional forces, it may be extremely difficult to distinguish friend from foe. Thus, while targeting a textbook, conventional enemy may not require the same degree of flexibility in a targeteer's thought processes, targeting in a fluid and dynamic battlefield will likely require greater access to experience and wisdom not achievable in today's climate that privileges career management and relies on just-in-time targeting production.

2. Increasing Role of Weapons Technology

One of the more prominent trends in the Air Force is the mass investment in advances in weapons technology. Given the current push towards a leaner force structure, US forces are becoming ever more dependent upon precision-guided munitions (PGMs) as a means to guarantee superior military strength in future conflict. Although PGMs have been a part of US weapons inventories since World War II, they have recently re-emerged as the centerpiece of a revolutionary style of modern warfare following their successful application in Operation Desert Storm. Since the first Gulf War precision-guided weapons have

played a growing role in military operations, “about 8% in Iraq, 30% in Kosovo, and 60% in Afghanistan” (Bowie,Haffa,Mullins, p.3-4, 2003). Another trend that parallels the increased use of PGMs is the increase in total number of weapon systems that can employ PGMs. In part, increased demand to employ PGMs can be explained as a consequence of their accuracy and effectiveness. For instance, an increasing percentage of PGMs can be delivered in adverse weather conditions, day or night, through the use of weapons guidance technology aided by the Global Positioning System (GPS).

The first generation of precision-guided weapons, which I consider to be those that use laser or electro-optical sensors to acquire a target and guide munitions toward it, have been in existence since the Vietnam War. The overall accuracy associated with these weapons was in large part due to the ability of the aircrew to visually acquire and guide the weapon to the appropriate aimpoint. With the laser and electro-optical weapons, a clear line of sight was needed between the aircrew and the target, making target acquisition itself less effective and easily disrupted by cloud cover and smoke. After Operation Desert Strom the US Air Force accelerated the research and development of a low cost, all weather, day or night weapon system. Out of this development effort came the Joint Direct Attack Munition (JDAM), the highlight of Operation Allied Force and Enduring Freedom, as well as the Joint Standoff Weapon (JSOW).

While GPS weapon systems do not achieve the same level of accuracy as laser and electro-optical systems, they do provide a low-cost, “near-precision” capability that can be employed in virtually any weather condition short of a hurricane. While the utility of GPS weapons cannot be ignored, there is one critical piece to the success of GPS weapons that does routinely get ignored: that is, *the role of the target intelligence specialist responsible for mensurating every geo-coordinate programmed into the weapons guidance system*. With the arrival of GPS guided weapons, overall responsibility for guidance was taken out of the hands of the aircrew and placed on the desktops of numerous 18-25 year-old target intelligence personnel serving across the armed forces, from squadrons to numbered air forces. This is not to suggest that the final coordinate input to all

GPS weapons is executed by the targeting specialist, as some aircraft have the ability to acquire, update, and reprogram updated coordinates directly into the weapon for greater accuracy. However, with the growing trend of miniaturization within the US Air Force, there will be more GPS weapons tasked against targets and the task saturation of the aircrew to refine coordinates while approaching the target will likely lead to the employment of more GPS weapons based on the initial coordinate data given by the targeting intelligence specialists. The reliance of weapon systems on the input of targeting specialists will likely also grow as a consequence of further research and development of autonomous and standoff weapon systems. During my assignment with 12th Air Force at Davis Monthan AFB, I was tasked with working with the contractors of the new Joint Air to Surface Standoff Missile (JASSM). The JASSM is a weapon system for which the target intelligence officer literally programs the weapon's flight path from release point to impact. In addition to plotting the weapon's path around enemy defenses, the targeteer will also be responsible for creating the terminal acquisition model for the weapon. The JASSM virtually eliminates the role of the aircrew, needing only to be delivered to a certain portion of airspace. As Colonel John Boyd puts it, "machines don't fight wars, people do". The increase in these various weapons technology only underscores Boyd's point. In this case of the JASSM, it is not those in the plane who are essential to the success of the JASSM, but those who program the munitions the aircraft delivers. Our obsession with stealth technology and advanced weapons systems has made us forget about those responsible for employing the technologies that make these systems as effective as they are. The JDAM and JSOW are simply the explosive end of a much larger weapon system, and the JDAM and JSOW will only be as precise as are these individuals responsible for the selection and validation of each and every coordinate that gets programmed into the JDAM and JSOW. Indeed, due to this interdependency, the Air Force can no longer neglect the role and importance of trained and experienced targeting specialists. As accurate as these and other "smart" weapons systems have become, without the benefit of a "smart" targeting process to identify the proper enemy aimpoints, their tremendous advantages in

war can quickly be rendered irrelevant or worse, as we witnessed with the Chinese Embassy bombing.

3. Increasing CD Concerns

Enemies that we will inevitably deal with in the near future will continue to leverage and exploit collateral damage as a result of US actions, in an attempt to undermine support for US operations at home and abroad, and in an effort to undermine coalition and allied support. The increased pressure to minimize collateral damage has had a dramatic impact on the ability to conduct resourceful and responsive targeting by encouraging senior US political and military leaders to assume greater oversight of the target selection and approval process. This in and of itself, however, is nothing new to targeting. Targeteers and various other US military planners have long taken extraordinary measures to minimize collateral damage and uphold the principles established by the Laws of Armed Conflict, even going so far as to self-impose restrictions to help minimize collateral damage. Unfortunately, mistakes can and often do happen in times of war as a result of the fast-paced, hectic nature of combat that generates what Clausewitz called the “Fog of War”. As a result of this “Fog of War”, occasional collateral damage is inescapable. Unfortunately, even the occasional accident or mistake in target selection, identification, and approval eventually can lead to the death of non-combatants and the destruction of non-military facilities. These legitimate combat mistakes often lead to an over-reaction and the institution of stringent controls over the entire process, which then often contributes to the limitation, or restriction, of combat operations.

For instance, during Operation Desert Storm, targeteers and military planners managed to avoid major incidents of collateral damage given the fact that thousands of air sorties were being flown against targets in Iraq. However, on 13 February 1991, an F-117 was tasked to strike the Al Firdos bunker in Baghdad, which was believed to be harboring Iraqi intelligence personnel. Unknown to the targeting planners at the time was the fact that the Al Firdos bunker not only harbored members of the Iraqi Intelligence Service, but also served as shelter to hundreds of civilians, who were inadvertently killed as a

result of this attack by the US. Iraq was quick to exploit this mistake, which eventually led to a change in the selection and approval process for any targets located within Baghdad.

Concerns over coalition cohesion and the need to minimize collateral damage played a much larger role in Operation Allied Force than in any previous conflict. From the outset, "the United States wanted to conduct strategic strikes to go after the heart of Milosevic's power, while many European leaders wanted to avoid attacks that would severely damage Serbia" (Bowie,Haffa,Mullins, p.22, 2003). US targeting and air planners theorized that delivering a strong, decisive series of air attacks against those critical targets that Milosevic needed in order to maintain and administer his attack against Kosovo would not only be effective in getting Milosevic to meet NATO demands, but also require less time and effort to accomplish NATO's overall objectives. According to a RAND study, "pressures to avoid civilian casualties and unintended damage to nonmilitary structures were greater in Allied Force than in any other campaign involving US forces" (Bowie,Haffa,Mullins, p.22, 2003). This concern over collateral damage severely impacted the way targets were analyzed, weaponeered, and submitted for approval. In order to get a target on the strike list, each target needed to be individually assessed not only for its military value to the overall operation, but also for the probability of collateral damage. Almost every target required collateral damage assessments and body count estimates provided by a series of computer models that generated these for every possible weapon type, weapon setting, and attack parameter. Each model, as time consuming as it was to produce, had to be generated by the limited targeting staff, whose other responsibilities included target analysis, target selection, capabilities analysis, and battle damage assessment. These estimated collateral damage models, to include expected noncombatant body counts, were created and forwarded up the NATO and US chains of command via General Clark, and sometimes even directly to President Clinton, before approval would be given. Not only did this increased oversight slow down our ability to respond to changes in a timely

manner, but in some cases the targeteers were tasked to provide or even directed to use different ordinance, some of which would not be able to achieve the desired effect on the intended target.

Given this pattern of increased caution and concern over the fall-out from collateral damage incidents, it would appear that targeting planners will need to be better able to respond to this in the future. Currently, targeteers are educated in the Laws of Armed Conflict and taught how to go about selecting targets in a manner congruent with these laws. But in order to maintain the speed and flexibility needed on the battlefields of the future, targeteers will have to be even more cognizant of the larger impacts of their recommendations and have the *credibility* needed to instill confidence in those that have to make decisions based on targeteers recommendations. In addition, targeteers will need to remain proficient in understanding the effects of given weapons against specific targets and be able to resoundingly prove to others that their weapon recommendations may be the only option available. Finally, targeteers will have to be well versed in various collateral damage modeling tools and have the freedom to continually practice and sharpen these skills. Like so many other aspects of targeting, collateral damage evaluation is a necessary skill that requires the targeteer to be highly credible, knowledgeable, proficient, and responsive - all of which are difficult given the limitations currently levied on those in the target intelligence discipline.

4. Increasing Speed of Tasks:

Another prominent trend is the rapidly improving speed at which targets can be generated and prosecuted by a combination of battle management, sensor, and strike platforms, compressing what has become known as the “kill chain”. Traditionally, most targeting was performed in an environment that was slower in pace, leading to the establishment of a 72-hour Air Tasking Order cycle that is officially still in effect today, according to AFI 13-1AOC. This increased deliberate planning period was a result of the technological limitations placed on intelligence collection and communication technologies critical in the commander’s approval and decision-making process. One problem with this

deliberate planning process from the Cold War is that it instills an institutional propensity for scripted and static military operations as opposed to the dynamic and fluid responses today's military operations call for. Since Operation Desert Storm, not only have our potential enemies transitioned to a more dispersed, mobile force, but also the US technical ability to quickly acquire, assess, decide, process, disseminate, and act have greatly speed up. It seems safe to say that future battlefields will be equally nonlinear and will require renewed emphasis on both adaptive planning and dynamic military operations. With this shift in operating environments must likewise come a shift in the abilities of targeting specialists to adapt and become better prepared to confront these types of situations.

> The combined experiences of planners and operators in *Desert Storm, Allied Forc*e, and *Enduring Freedom* underscore this point. In the Gulf War, for example, 20% of targets were selected after aircraft launch, whereas over Kosovo, 43% of the targets were selected once the aircraft were airborne. In Afghanistan, 80% of the carrier-based sorties were launched without pre-designated targets (Bowie,Haffa,Mullins, p.3, 2003).

Despite the various command and approval obstacles that confronted targeteers during Operation Allied Force, the kill chain cycle was greatly reduced from that during Desert Storm. During Operation Desert Storm, it could take days from the moment of intelligence collection on a target to the actual strike on that target. During Operation Allied Force, this kill chain cycle had been severely reduced to just a few minutes in some select cases, and by Operation Enduring Freedom a few minutes were the norm. Targeteers and military planners working with numerous live data streams, while being directly linked with ISR platforms and numerous strike aircraft, re-shaped the targeting process and placed a greater responsibility on the targeting specialist. More often than not in the previous 72-hour cycle, targeteers had the luxury of conducting considerate analysis using various source materials available to them, to include calling upon specialists in various other intelligence organizations for assistance. With the shortening of the targeting process, targeteers will be required to make these

very important decisions without the luxury of “cheat sheets”. In point of fact, during the numerous AOC exercises that I have attended, the targeting shops always placed their “all star” targeteers on the Combat Operations Floor of the AOC. The Combat Operations Floor is that portion of the AOC responsible for mobile targeting, time critical targeting, time sensitive targeting, fleeting targets, high value targets, or whatever is the buzz word term at the time. Without question, the targeteer responsible on the Combat Operation floor needs to be well versed in every aspect of the targeting process. All of the skill sets required for targeting are utilized during this Combat Operations period; targeteers that are not well versed in *all* of the targeting niches do not serve the AOC effectively. If these high speed, dynamic environments represent the wave of targeting to come, then it stands to reason that *every* targeting specialist will need the ability, wisdom, and credibility to make these quick and accurate targeting decisions.

C. RECOMMENDATIONS FOR TARGETING CHANGES

In the previous section I have tried to enumerate some of the recurring themes and future trends facing the Air Force targeting community. With all of the previous trends beginning to influence current conflicts, how is the Air Force preparing itself to meet these demands? The following section is an attempt to outline what I feel is required to not only repair the current targeting deficiencies, but to better prepare and shape targeting for years to come. The ideas that I present are meant to be more than just suggestive. However, I make no attempt to get into a detailed analysis of the how to’s. Rather, this is a conceptual sketch. These ideas range from a grandiose, un-restricted creation of a separate targeting career field to a lesser scale solution that examines the re-structuring of targeting given current constraints.

1. Separate Targeting Career Field

The creation of a separate targeting career field has been touted and argued for since Major Hansell’s Committee of Operational Analysis during World War II. As previously addressed, one of the key factors concerning the role of targeting in the past was not the need for targeting, but rather where targeting

would be placed within the Air Force's bureaucratic structure. Targeting is a process that I have shown falls between the two diverse cultures of Operations and Intelligence, and should actually be thought of as a separate discipline that constitutes a merger of these along with many others. From one perspective, operational and strategic targeting are not substantial producers of intelligence, but rather consumers of vast amounts of all-source intelligence information, and therefore *to be supported by* intelligence analysis rather than the reverse. At the same time, targeting is not strictly an intelligence specialty. Targeting as a *discipline* is both a science and an art. It is practiced by professionals highly trained and educated in airpower strategy, interpretive analysis, quantitative (statistical and probability) analysis, the capabilities of intelligence, surveillance, and reconnaissance (ISR) assets, command and control doctrine and systems, weapons capabilities and effects, and air-to-ground tactics. A targeting officer must possess a balanced mix of air-to-ground flying operations, weapons system capabilities, intelligence capabilities, and AOC operations. In general, the only way one can gain these experiences is to be a rated officer, or an intelligence officer who has operational experience working in an air-to-ground wing and an Air Operations Center. As I have previously argued, the targeting process and targeting personnel are essential components to the successful application of air operations, and the US Air Force can not effectively conduct offensive air ops without them.

The solution to the targeting dilemma in 1974 was to place the responsibility for targeting within Air Force intelligence in order to ensure access to the intelligence needed to effectively perform targeting. I presume that had the targeting process and responsibility not been in the intelligence domain we wouldn't have some of the problems that currently exist within Air Force targeting: namely, no doctrine, no core expertise, no AFSC, no advocate and, worse, no credibility. Unfortunately, intelligence did a disservice to itself and the US Air Force when it lost focus of, and abandoned, targeting as a central concept in an effort to consolidate personnel and resources during the 1990's. The decision to place targeting within intelligence in 1974 was done with the idea of

establishing a strong foothold in the “green door” of the secretive intelligence community. Almost 30 years later, the two worlds of operations and intelligence have become more accessible and the ability to gain access to the information needed to perform targeting is less restricted than it once was. With the recent lack of commitment given to the targeting process by Air Force intelligence and the growing relationship between the worlds of operations and intelligence, maybe it is time to look back to 1974 and determine whether the environment today isn’t more conducive to establishing a *separate* targeting AFSC than it was thirty years ago. Clearly, I think this is not only appropriate, but long overdue.

In addition, I believe that this separate targeting AFSC should be treated as a separate non-rated AFSC similar to those AFSCs of Combat Control / Combat Rescue, Airfield Operations, Space and Missile, and Weather, but not left solely under the influence of the intelligence community. I believe that a separate AFSC would create an atmosphere that would emphasize proficiency and experience. Had the targeting career field been a separate non-rated ops AFSC from the beginning, this thesis would not be needed, and the US Air Force would have retained the officers and expertise that actually made the US Air Force the power that it is. Having a separate targeting AFSC would provide targeting an advocate on the Air Staff somewhere beneath the Director of Operations. There would likely be doctrine for targeting developed. And there would be a formal educational and training system that specifically catered to the long-term development of the targeting profession. In addition, there would be a personnel and resource management hierarchy run by those within this new AFSC who would have to live with the ramifications of their decisions. Having a separate targeting AFSC would not only allow individuals from many disciplines to come together and leverage one another’s capabilities, but imagine an AFSC that was a collective of former operators, intelligence professionals, command and control experts, operational planners, and information operators: a targeting officer would be viewed as someone who had a broad perspective of air and information operations at the tactical, operational and strategic levels, and be instrumental in the planning and execution of air power.

2. Re-Structuring of Air Force Intelligence into Broad Tracks

While creating a separate targeting AFSC may be the preferred path to establish a highly professionalized and knowledgeable body of targeting specialists integrated throughout the force, it is the rockiest to pursue given the challenges involved with creating and maintaining a separate personnel process. While not as dramatic and comprehensive as a dedicated targeting AFSC, a realigned and reprioritized, properly managed intelligence community could create and maintain an effective pool of Air Force intelligence personnel with targeting backgrounds. In the period between 1992 and 1998, the Air Force intelligence community was divided into three diverse career tracks that each catered to a particular area of intelligence. While one path focused primarily on the tasking, processing, and collection of intelligence, the other career path took this intelligence and converted it into consumable products for Air Force operations. This three-pronged career track offered enough latitude for career diversification that it allowed those within to become somewhat proficient in the required tasks. Due in large part to the combination of ineffective management of these tracks, plus the manipulation of the system by some individuals, over time personnel came to be misused within their respective branches, and when the time came for promotion there appeared to be too much stagnation and specialization, causing many to be passed over for promotion. This eventually led to the consolidation of the three separate tracks into one, and the increased involvement and career management from commanders and the personnel system to ensure that officers would become more diverse in all areas of intelligence and, in turn, better suited for promotions. This mentality, as previously described in Chapter IV, created an intelligence officer who has become a generalist, and worse, it has increased the level of careerism overall within the ranks. While I personally resent the current level of career management within the Air Force intelligence community, I believe that if this had been handled differently (within the individual diverse career track), it could have eliminated some of the severe “stove piping” or specialization that occurred.

My second proposal for how to repair the damage done to the targeting disciplines requires re-dividing Air Force intelligence based on the recently revitalized intelligence core competencies. These core competencies include Intelligence Preparation of the Battlespace, Operational Analysis, Air Operation Center and Unit Operations and Targeting Operations. For each track, a personnel development team will work through each individual's experience, skills, and desires to ensure that Air Force intelligence has the right mix of officers to meet mission needs. If properly managed, a track system could be broad enough to allow for greater diversity in the officer corps and allow a greater degree of specialization that is not possible today. A track system would allow a degree of horizontal flexibility without having to turn personnel 180 degrees after every assignment. As far as career depth and broadening, if the career tracks are managed properly then personnel should come to expect standard rotations outside of their given track, such as education and training opportunities as both student and instructor, and assignments to various staff level positions throughout the various levels of command. The success of a divided intelligence career field would depend on the ability of senior intelligence personnel in the field to adequately outline detailed requirements to the various personnel development teams. Without active and thorough coordination between senior intelligence personnel in the field and the personnel development team, the intelligence officer community's ability to meet Air Force mission requirements is greatly reduced. It is my opinion that if a track system was established and properly managed by a development team, then a climate could be created in which a certain degree of specialization and experience would be developed while still being able to flow personnel through various career development and educational opportunities.

The development of a separate career track specializing in targeting would generate intelligence officers who could spend more time within targeting and those disciplines that parallel targeting, or even support targeting. A simple division of the intelligence community, however, will not address all of the concerns raised in this thesis. There are lingering issues that need to be

addressed, such as how to better train and equip those personnel serving in this targeting track to better face the targeting challenges ahead. Also, how can we retain those with experience versus eliminating them from the career field? While a separate targeting track may be a great start to replenishing those targeting skills previously squandered by the Air Force intelligence community, much more work will be required to ensure that these targeting specialists residing within these billets have the overarching support from not only the intelligence community, but the Air Force as a whole.

D. CONCLUSION

The problem with targeting today is that the technologies and expectations imposed by modern warfare demand far more finesse from the targeting process than most of those currently practicing are prepared to provide. Today's targeteers are handicapped by the system that is supposed to provide them the skills needed to effectively perform their duties. This chapter makes the relatively safe prediction that combat operations of tomorrow will require targeteers to rely more than ever on the knowledge and wisdom that they have acquired by their years of experience on the job. The problem, however, is that there is no architecture currently in place to create a long-lasting, stable environment within which targeteers can acquire this knowledge, let alone be able to act upon it. The second half of this chapter offered some suggestions for how the US Air Force should restructure Air Force targeting in order to create the type of force needed to confront the challenges that lie ahead. The first proposal, while the most drastic, would require a complete cultural change and creation of an all new personnel process. While a dramatic undertaking, this would result in a highly professionalized and knowledgeable body of targeting specialists integrated throughout the force, ready at any moment to definitively plan, task, and execute air power. The second proposal was the low-cost option that simply re-structures and re-prioritizes the Air Force intelligence community's current stance on targeting. While not as dramatic and comprehensive as a dedicated AFSC, the realigned intelligence community, if developed and managed properly, could create and maintain an effective pool of Air Force intelligence personnel with

targeting backgrounds. The evolution of war fighting technologies, the mobile and responsive nature of targeting, and the rise in expectations of fighting clean wars in the future demands that we cannot do anything short of placing the targeting process in the hands of a highly focused, dedicated, and thoroughly specialized group of individuals.

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VI. CONCLUSION

If we were to go back far enough in time, targeting began when the first hominid decided he could inflict more damage on his prey with a blunt instrument than with his bare hands. From that day to the present, the targeting concept has continued to evolve as man, warfare, and the tools of warfare have evolved. In the post - World War II era one of the prevailing trends characterizing US military, and especially US Air Force operations, has been the heavy emphasis placed on overwhelming military strength and technologies. Supported by recent successes in Kosovo, Afghanistan, and Iraq, the US now appears to accept superior military strength as the standard, relying increasingly on maintaining its edge in having the right forces and advanced technologies. Given the current trend towards a leaner force structure, the US armed forces are becoming ever dependent upon precision munitions as a means to guarantee superior military strength in future conflicts. Heavy reliance on such sophisticated weaponry as the joint direct attack munitions (JDAM), TLAM, CALCM, and numerous other guided weapons during the recent conflicts in Kosovo, Afghanistan and Iraq helps illustrate this. However, as accurate as these "smart" weapon systems have become, without the benefit of a "smart" targeting process to identify the best means to employ these high tech solutions, the tremendous advantages they offer can quickly become irrelevant. Targeting is a concept that is inextricably bound to the very concept of airpower itself, and as such has existed since the earliest days of military aviation. Targeting is the very process that defines airpower. Indeed, without a concept of targeting, the concept of airpower loses all meaning. Currently, the Air Force lacks an overarching vision as to how the targeting process and those who perform this vital military function should fit into the larger Air Force architecture. This lack of commitment to the targeting process and those that practice targeting negates the enormous advantages of America's sophisticated combat arsenal and, if left uncorrected, offset the advantages of the precision and technology upon which so much depends. In this thesis I have attempted to demonstrate those deficiencies that I believe exist in the Air Force's

handling of the targeting process and those who have been entrusted to perform this vital military function. This lack of commitment to the targeting process and those who practice targeting negate the enormous advantages made possible by prudent use of America's sophisticated combat arsenal. If left uncorrected, these deficiencies promise to jeopardize the overwhelming military advantage that has attended virtually every US military operation since World War II.

The goal of this thesis was to first and foremost establish the relevance of the targeting process and the need for the Air Force to invest more time and energy into this critical process. No other discipline in the Air Force has such an impact on the application of airpower. I also wanted to show that the Air Force at various times throughout its short history has recognized the criticality of the targeting discipline, to the point that at various times separate organizational institutions were established to solely address targeting issues. However, in contrast to creating these separate targeting organizations, the Air Force also eliminated these targeting organizations in times of peace when it was believed targeting was no longer needed. This rationale should have been proved hollow numerous times, when ever the Air Force found itself suddenly engaged with an enemy with no targeting knowledge or apparatus in place. This lack of a persistent targeting organization led to the need to create a targeting specialist after the Vietnam War. While this represented a valiant attempt to get Air Force targeting back up to speed, the organization that oversaw targeting eventually lost sight of the utility targeting provides and eventually so subsumed targeting that it is barely existent today.

The US Air Force fails to understand that targeting is a process that ultimately rests on wisdom, not textbook knowledge and information. We have failed to understand that *making* targeteers is not a matter of training according to a checklist, but rather requires educating people how to think. It is not the steps of the targeting cycle one needs to learn, but rather the process of reasoning by which you engage and work through this cycle. In addition to an inadequate education system, the US Air Force has a personnel management system that is fundamentally incapable of nurturing the type of targeting talent

needed for the long term. At its very core it presumes that every officer aspires to rise to great rank, thus completely ignoring the fact that people come into the Air Force and remain in for numerous reasons besides that of achieving the next rank. The Air Force discounts the notion that the prospect of a lifelong pursuit of competence in a chosen discipline is, for some, the highest form of reward. As a result, the personnel system embraces an “up-or-out” approach to career progression that virtually ignores the intricacies of the technologies and experiences needed for modern warfare. Officers move up the ranks at such an accelerated pace that they no longer have the ability to become proficient at the tasks they are supposed to be fulfilling. The US Air Force’s obsession with precision guided munitions, stealth technology, and real time information systems had made us forget about those who are responsible for employing and maintaining these favored technologies. A revolution in military affairs is not necessarily synonymous with rapid development of new capabilities. Revolutions in military affairs also stem from revolutions in how we address cultural and doctrinal change. The reliance on technology is seen as a substitute for the professional. For instance, the belief that machines fight wars and people are secondary in importance led us down the path of treating humans in a mechanistic manner beginning a century ago. But treating people as nothing more than cogs in a machine means they are bound to respond mechanistically, not creatively or dynamically. Worse, such an industrial age mindset only impedes flexibility and prevents ingenuity, restraining initiative from the numerous bright and talented thinkers residing in the lower levels.

Luckily for the Air Force, there are many extremely talented and hard working individuals currently serving in numerous targeting billets scattered throughout the Air Force intelligence community. These 18-28 year old soldiers, sailors, and airmen have the potential to have a major impact on the outcome of airpower and the overall course of military operations. With the importance that targeting has on the outcome of airpower, it would only stand to reason that the Air Force should make whatever reforms necessary to ensure these individuals are well trained.

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